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Nottingham University Business School

**Report analysing the CSR initiatives of selected
Indian IT companies and recommendation of a
Regenerative Business Model**

MBA MANAGEMENT PROJECT

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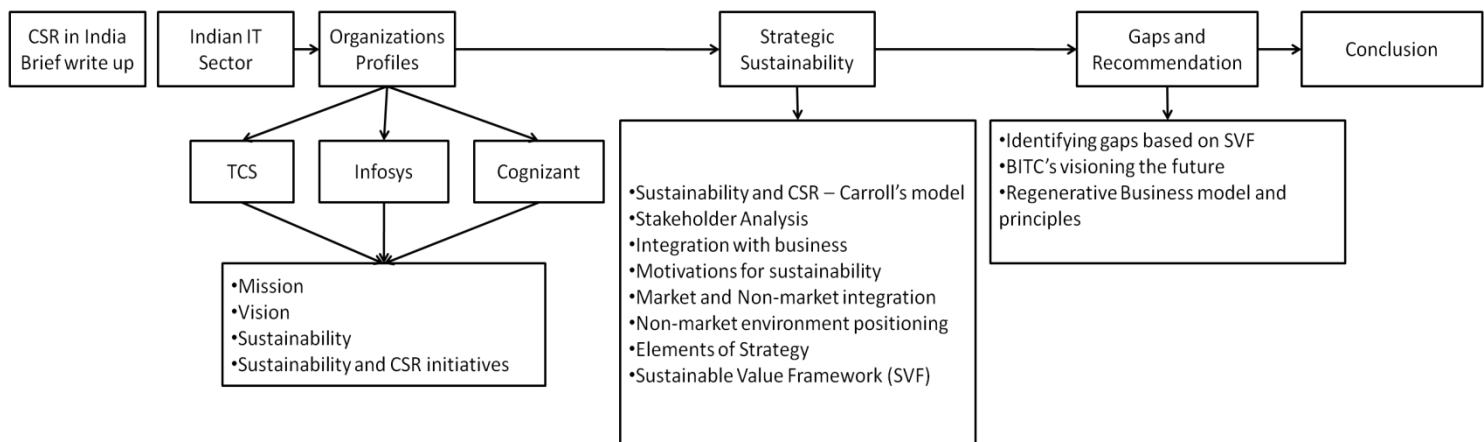
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1. Introduction

This report captures the corporate social responsibility (CSR) activities of TCS, Infosys and Cognizant - global leaders in the 'next generation' of Information Technology (IT) and consulting. The CSR activities captured in this report focus mainly on the current CSR initiatives of the companies as these companies have been practicing CSR for more than 10 years and capturing all the CSR activities will be too broad in the context of this report. The roadmap of this report is shown in Figure 1, which is self explanatory and provides a concise glimpse of what the reader can expect out of this report.

Figure 1



1.2 Scope of the Project

The report starts with analysing the CSR initiatives of the selected Indian IT companies. The analysis paves way to find the gaps in the existing strategies of the companies. The internship at BITC aimed to create a business model for businesses in 2050. This naturally involved understanding the current trends and forces that shape business around the world. The trends and forces show how Indian IT companies can

capture the opportunities and stay focused by considering the related threats. This data feeds into the creating of a recommended business model – Regenerative Business Model not just for the IT companies but for a wider audience.

2. CSR in India

Corporate Social Responsibility has been prevalent in India for decades. Examples of companies like TATA Group, Indian Oil Corporation and Aditya Birla Group can show how companies have involved themselves in serving and nurturing the community in which they operate. Though the concept of CSR has existed for a long time it's only now that CSR is being practiced explicitly.

2.2 Forces for Change:

The increasing importance of CSR in India is driven by two forces mainly. One, the organization have started realizing that its essential to adopt the principles of sustainable business apart from doing the business as usual in order to build trustworthy and sustainable relationships with multiple stakeholders. Second, the state of the Indian economy has created a compelling reason of why organizations should protect the society by large. Though India is one of the fastest growing economies, issues like child labour, poverty, health, illiteracy and inequality has created a web of social problems which opens many locales for businesses to contribute towards social enhancement.

3. Indian IT sector and CSR

The porter's five force analysis for the IT industry in India (Refer Appendix A) clearly shows that the market is highly attractive. India's IT companies form the second largest source of IT outsourcing services to the world and has grown with a fast pace in the past four years (Dataquest, 2011). The top 200 companies had 25% growth in the financial year (2010-2011) compared to the 8% growth shown in the

previous year (2009-2010). Combined, their total revenue is \$84 billion which makes IT one of the biggest industries in India (http://rtn.asia/890_tcs-leads-ibm-sixth-cognizant-fifth-it-firm-india-dq, 2011).

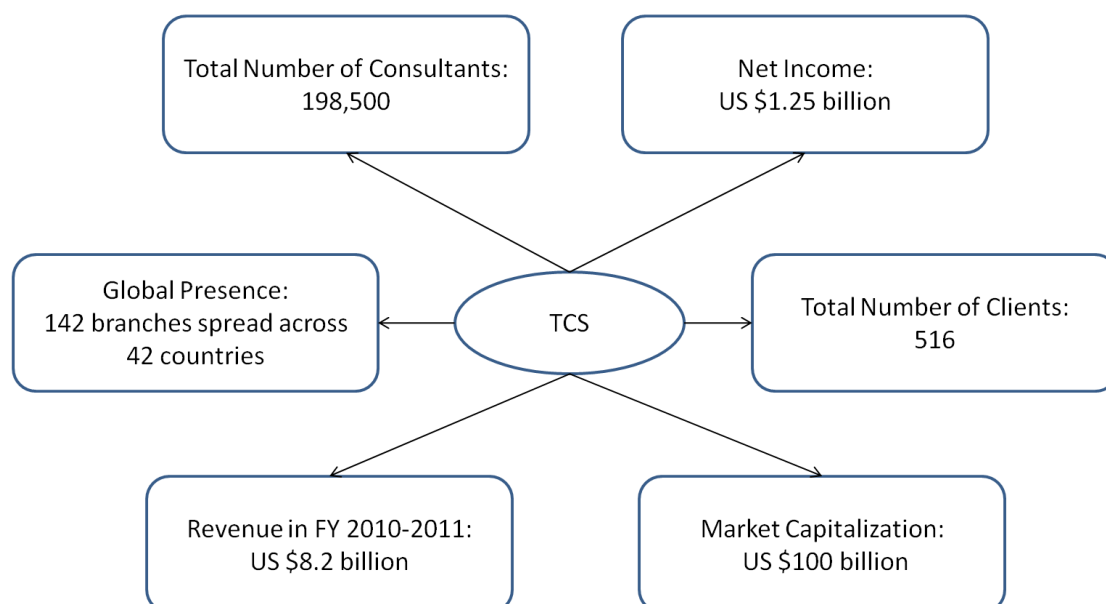
TCS, Infosys, Cognizant, Wipro and HP were the top five IT services companies according to the Cyber Media publication. It is interesting to see that while the Indian headquartered firms had a growth of 12-25%, HP and Cognizant headquartered in US had a growth of 30 and 37% respectively.

4. Organization Profiles

4.1 TATA Consultancy Services (TCS)

Established in 1968, TCS is a leading global provider of Information Technology, outsourcing and business solutions. It is headquartered in Mumbai, India. TCS is the largest provider of IT in Asia and in providing business process outsourcing services it the second largest in India. Few important facts about the company are shown in Figure 2.

Figure 2



- Adapted from TCS website: http://www.tcs.com/about/corp_facts/

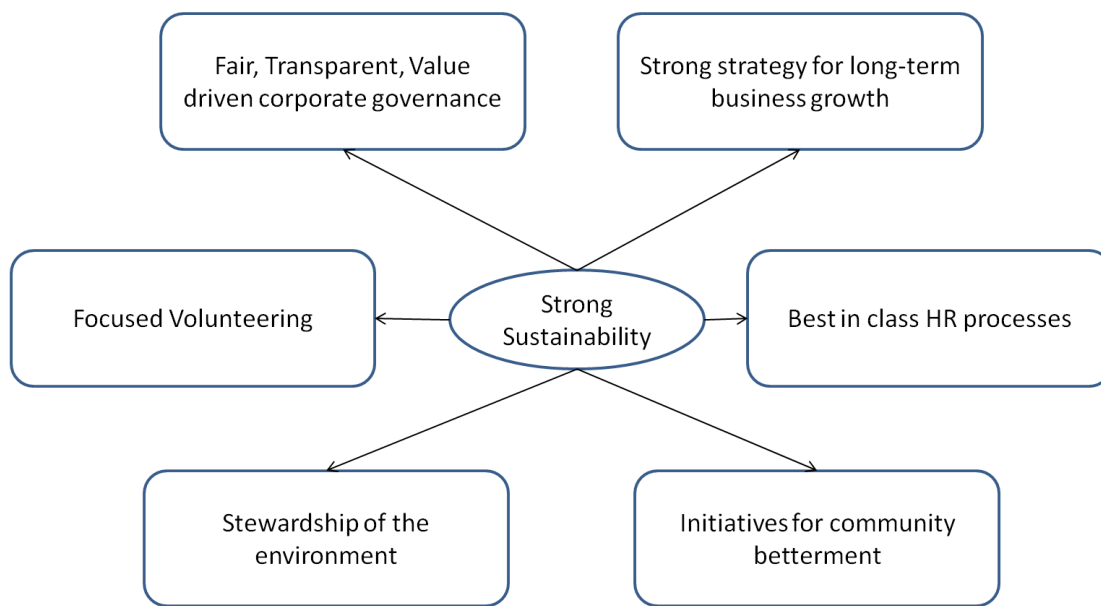
4.1.1 Mission and Vision

N. Chandrasekaran formally took over TCS, as the Chief Executive Officer and Managing Director in 2009. He is one of the youngest CEO's among the TATA group and stepped in to take charge of TCS during the rough phase related to the global meltdown. When he took over TCS he claimed that in order to start the business aggressively, he wants to come out with a challenging and inspiring vision statement. Vision statement is very important to any organization as it enhances the effectiveness, focus and integrity. It's a little alarming to see that TCS does not have a specific vision or mission statement even now. Nevertheless they have the TATA groups heritage and values which forms the basis of longstanding commitment of TCS. Their core values are leading change, Respect for the individual, Excellence, Integrity and Learning and sharing (http://www.tcs.com/about/heritage_values/Pages/default.aspx).

4.1.2 Sustainability

TCS represents the Tata group's philosophy of creating and building a strong sustainable business which are predominantly focused on nurturing a healthy community and environment. According to TCS the elements that make their corporate sustainability strong are shown in the Figure 3

Figure 3



- Adapted from TCS website: http://www.tcs.com/about/corp_responsibility/Pages/default.aspx

Going forward the report will focus more on the sustainable approaches adapted by TCS and see if they are related to the stated mission, vision and the elements that TCS claims to make their sustainability approach strong – building a business case.

4.1.3 Sustainability and CSR Initiatives

TCS has published their annual sustainability reports every year since 2006. This report will consider the latest sustainability report (FY2009-2010) available in their website for analysing their sustainability and CSR initiatives. The key topics represented in their report are

1. Corporate Governance
2. Sustainability of Business Performance
3. Community Engagement
4. Environmental Impact

Corporate Governance:

TCS believes that sound corporate governance is absolutely important for business sustainability and stability. They have a dedicated governance body that oversees the company's business strategies, fiscal accountability, ethical corporate behaviour and fairness to multiple stakeholders and creates a platform to foster sustainability.

There are various aspects of TCS's governance namely, Avoidance of conflict of interest, intra group transactions, board oversight of the sustainability agenda, fiscal oversight, independent and effective validation, disclosure and transparency, ethics and compliance, board composition and selection of board members, employee access to the board, sustainability and risk management, succession planning, remuneration policy and protecting minority shareholders' interest. Details about each of these aspects are captured in Appendix B.

It is interesting to see how TCS has captured its governance aspects as the first key topic in the sustainability report which gives them a directed, administered and controlled outlook.

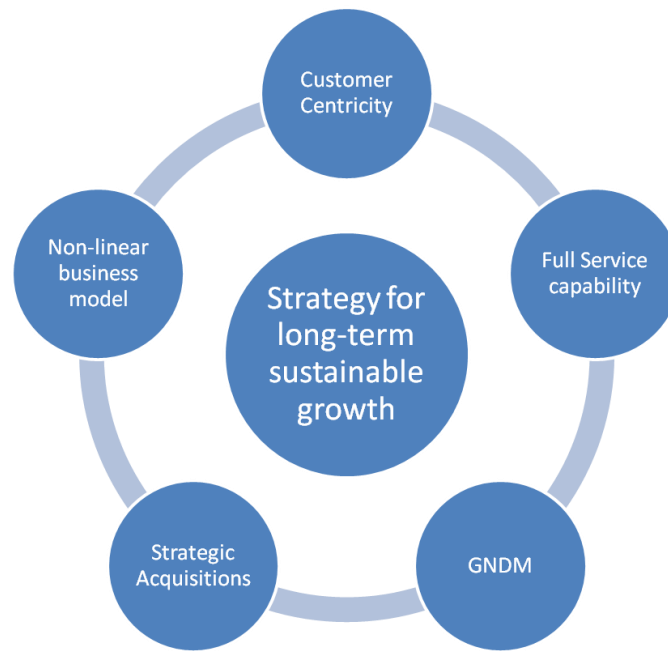
Sustainability of Business Performance:

TCS concentrates on five major areas for business performance sustainability.

1. Identifying demand of their products and services to sustain stronger revenue growth.
2. Whether the company's size could hinder agility in marketplace
3. Identifying supply side constraints to see its impacts on margins and growth.
4. Identifying any associated environmental risks.
5. Investing in innovation.

Their model for long term sustainable growth is shown in Figure 4.

Figure 4



- Source: TCS Sustainability Report FY2009-2010

First, customer centricity focuses on their development of business units around a portfolio of key accounts in particular industry vertical with a business head who has end-to-end responsibility for that portfolio. TCS claims that with the help of business units they have created a customer-centric, domain-led organization which is governed by supreme excellence in execution. Second, full service capability offers their customers spread across the globe with a comprehensive, integrated portfolio of services – from consulting to providing solutions, maintenance and support. Third, Global Network Delivery Model (GNDM) provides the capability to build a seamless delivery system by forming a network of delivery centers distributed across India, Europe, China, North America and Latin America. Fourth, TCS focuses on strategic acquisitions which may bridge the gaps in services or allow access to new markets or provide strong domain and technological expertise. Fifth, they rely on the new Cloud computing to provide their customers with added benefits of a shared, multitenant technology platform and a global delivery model. For e.g. they have offerings targeted towards small and medium enterprises and Rural and cooperative banks in India.

Criticism: Though the long-term strategy for business process excellence and growth provides a strong base for sustaining the existing business is it really long-term is questionable. No importance is given to the social and environmental aspects of building a strong business to operate in future. Thus, the model looks more like a model built for business as usual but not for a really sustainable business.

Community Engagement:

TCS has an integrated, strong and unique relationship with society at large and this reflects especially because of being a part of TATA group. They claim to have positive impact on the local communities through TCS global CSR initiatives. This includes volunteering, funding and pro bono leveraging of their IT expertise in the areas of environment, health and education.

TATA group owns close to 75% of TCS and hence they do not have major issues in aligning the interests of shareholders with the society's which allows the organization to work closely with local communities and perform greater social good by just running their business well. Around two thirds of the equity of Tata Sons Ltd is held by philanthropic trusts. Nearly 49% of the dividend equity paid out by TCS every year is sent towards funding the philanthropic work carried out by these trusts.

Like other Indian IT companies examined in this report TCS also views sustainability and corporate social responsibility as separate entity. By CSR they mean doing philanthropic activities. This will be highlighted later in this report.

TCS supports the local communities and society by large by

1. Using core competency for community welfare – trying to build a business case with their core competency being IT.
2. TCS-Maitree – their volunteer group comprising of TCS employees and their families.
3. Funding of philanthropic activities.
4. Investing in CSR activities. TCS invested \$9.4M.

Their key focus areas for CSR initiatives are: Health, Education and Environment.

TCS claims that it has extended technology-led solutions to their customer's business issues to cover community as well – effectively using IT for social good. Few examples mentioned in their sustainability report are listed below:

1. The government of India's National Literacy Mission Authority has invited TCS as its official partner in Saakshar Bharath(means literate India). This program has a vision to educate 70 million illiterate women by March 2012.
2. mKRISHI is an award winning mobile agro-advisory service offering customized and integrated services to farmers. The services are provided with the help of cellular networks, mid range mobile handsets, weather and soil sensor technologies. mKRISHI brings important information on weather, fertilizer requirement, pest control and grain prices to farmers.

Apart from improving the state of the community, TCS involves in promoting education. For example, TCS created the goIT program in order to address the issues related to reducing numbers of students seeking IT-related career in the US. As a part of this program the TCS employees conduct in-school IT career workshops in the local community. In UK, TCS runs the Passport to Employability program that facilitates students to develop skills to enhance human capital talent and improve employability.

When it comes to health and wellness TCS has portrayed a positive picture. TCS has taken part in various campaigns and programs associated to health and wellness. For examples, in UK, TCS created the TATA UK flagship initiative called 'Today is a Good Day'(TIAGD), which supports cancer research and educates the employees and the local communities on the importance of early diagnosis of cancer and the importance of a healthy living style.

Finally, to support environment TCS has involved itself in various awareness campaigns related to wildlife, environment, occupational health and safety which encourages employee volunteering and makes them more environment conscious.

If we look at all the CSR initiatives it can be said that TCS is trying to build a business case related to philanthropy but definitely do not have a strong one. The products developed by TCS to enhance the community wellness shows that they are leveraging their core competency to support the community. But overall the various activities lack the foundation of a strong business case.

Environmental Impact:

TCS is committed in reducing their carbon footprint. They are dedicated to minimize its ecological and carbon footprint, resource efficiency with an final objective of decoupling growth and environmental impact. This shows their interest in dematerialization. They focus on

1. Green IT
2. Resource Efficiency
3. Reduce, Reuse and Recycle
4. Green Procurement
5. Climate change mitigation – reducing GHG emission and carbon footprint
6. Green Buildings

Criticism: TCS has set appropriate targets related to environmental impacts and have claimed to achieve the set targets as well. But the set target seems to be stunted. For example they have set the target of reduction of electricity consumption of 1% which is very small compared to the global footprint that the IT companies have. No focus is shown towards reduction of water consumption and waste management. It is little disheartening to see a statement "Being an IT consulting firm, our

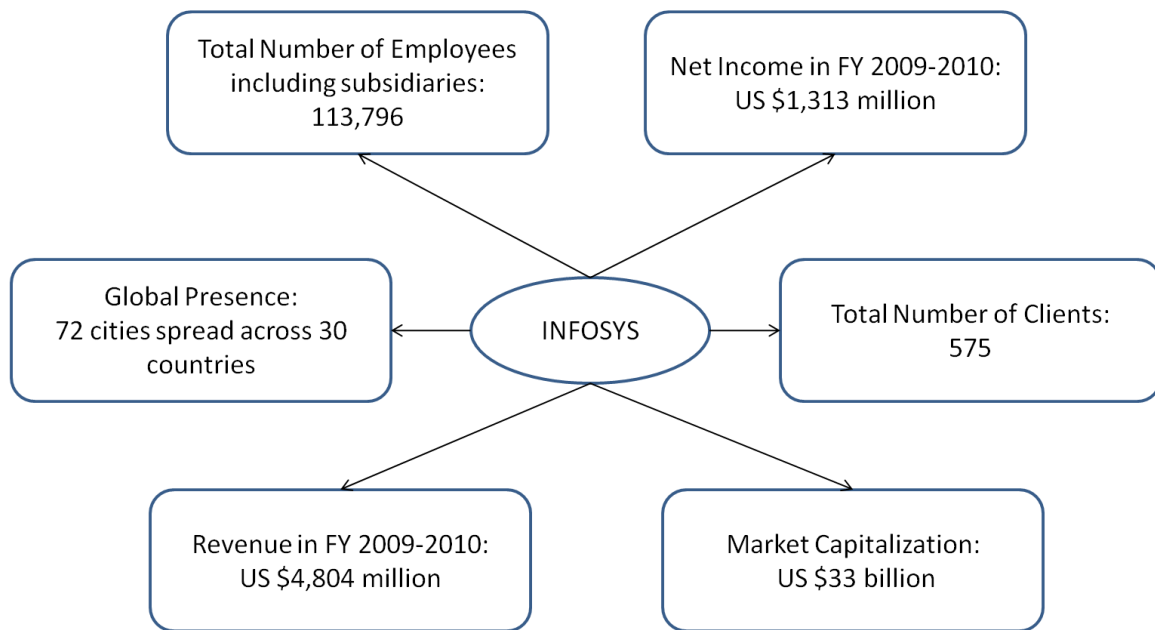
business processes don't consume non-renewable resources nor generate process wastes and emissions on the same scale as traditional smokestack industry (TCS Sustainability Report FY2009-2010)" in TCS sustainability report. Businesses cannot compare themselves with other businesses in order to show that they are not impacting the environment and society relatively rather they should use best practices demonstrated by other businesses to improve operations and processes.

Next, the report will examine the CSR initiatives of Infosys.

4.2 Infosys Technologies

Infosys Technologies Limited was started in 1981 by seven visionary leaders with US \$250 and today they are a global organization operating with revenues over US \$4.8 billion. They are the second largest IT services company in India and is also considered to be a dream employer. Few important facts about the company are shown in Figure 5.

Figure 5



- Adapted from Infosys FY 2009-2010 Sustainability Report

4.2.1 Mission

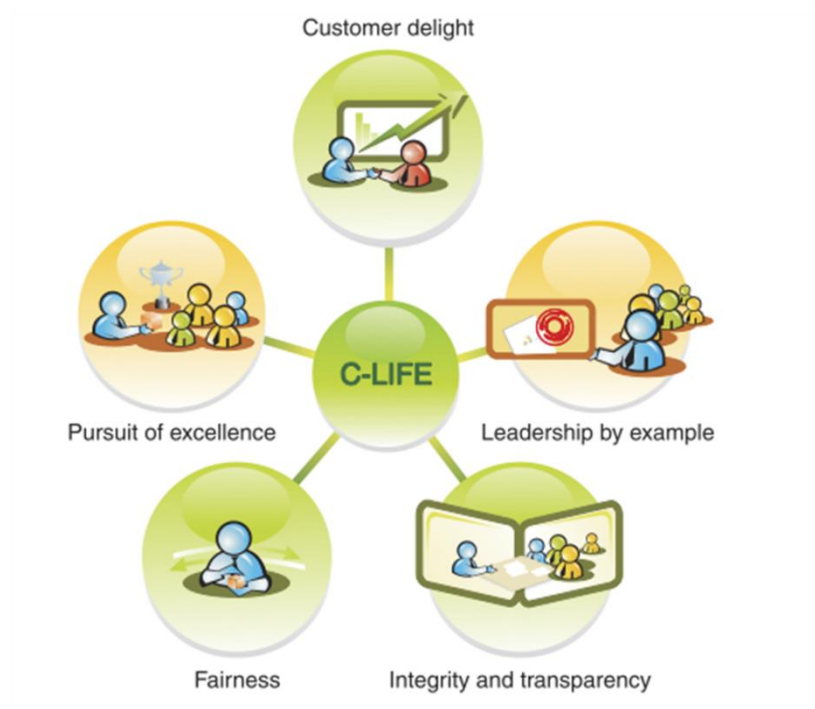
As mentioned in their sustainability report (FY 2009-2010) Infosys has an impressive mission:

To achieve our objectives in an environment of fairness, honesty, and courtesy towards our clients, employees, vendors and society at large.

4.2.2 Vision

The core value system of Infosys recognizes five important aspects as shown in Figure 6 and is called collectively as C-LIFE.

Figure 6



- Source: Infosys FY 2007-2008 Sustainability Report

Infosys claims that these five attribute drives their commitment to be a globally respected corporation that provides best-of-breed business solutions, leveraging technology, delivered by best-in-class people (<http://www.infosys.com/sustainability/pages/index.aspx>, 2010)

4.2.3 Sustainability

If we look at the vision and mission of Infosys again we can see that they are clearly framing the image of adopting a responsible and sustainable approach to business. Their website has a dedicated section (<http://www.infosys.com/sustainability/pages/index.aspx>) which captures the various sustainable approaches taken in order to have a sustainable future.

Going forward, this report will focus more on what are those sustainable approaches adapted by Infosys and see if it is related to their stated mission and values developing their business – building a business case.

4.2.4 Sustainability and CSR Initiatives

In FY 2009-2010, the major initiative was to formulate a sustainability policy. As per Infosys this policy will be integrated with the company's existing business policies as they have worked with the company's strategy team to formulate a single voice on sustainability. Infosys has identified three key areas to address

1. Social Contract
2. Resource Efficiency
3. Green Innovation

for creating a sustainable tomorrow – their current aim for sustainability.

Social Contract:

C-LIFE is the base on which the social contract dwells. Infosys shows its focus on corporate governance, people wellbeing and corporate stewardship through the initiatives taken with respect to their social contract. Their initiatives include

1. Engaging with employees:

Infosys employed 27,639 employees additionally which included 59 nationalities as of March 2010. It can be argued that this was a move to address the higher attrition rate¹ yet the policies of paid maternity leave, one-year child care sabbaticals, paternity leave, adoption leave, flexi-hours, sabbatical for volunteer work and higher education portrays their interest in providing employee benefits creating a equitable and participative environment.

Hearing Employees and Resolving (HEAR) is a formal mechanism in Infosys to address the grievances and discriminations (related to gender, age and ethnicity). In relation to harassment a Grievance Redressal Body and Anti Sexual Harassment (ASHI) has been set up which gives the employees to report harassment cases can gives them a sense of safety and security on ethical ground.

¹ In 2010 the attrition rate was 13.4% when compared to 11.1% in the previous year

LITMUS (Let's Interact on Themes that Matter to US) is an annual online employee survey to capture employee suggestion and feedback.

Criticism: Though Infosys claims to provide a lucrative pay package and had recently given a 14-17% hike in salary (2009), Infosys has got criticized by their employee restructuring program called iRACE². Fast facts says that out of 7500 employees who got promoted or demoted due to iRACE 2500 employees got impacted. iRACE led to demotion of 4500 employees in October 2009

(<http://timesofindia.indiatimes.com/tech/itslideshow/>). This definitely questions their level of fairness which they consider to be one of their core values for having a sustainable business. In fact Infosys was questioned by their own employees on who they obtained the Best Employer Award in FY 2008-2009.

2. Employee Wellbeing:

Infosys has various processes to strengthen employee wellbeing. Health assessment and lifestyle enrichment (HALE) was initiated to enable employees to take a more proactive approach to health. HALE promotes healthy lifestyle by providing awareness, simple quizzes to assess their stress level, conducting campaigns like HALE week to address health issues among employees. Around 10,000 employees participated in various competitions, plays, demonstrations and sessions conducted on the theme of safety.

Criticism: All said, Infosys has faced opposition from its employees for having inflexible working hours, late night shifts and a strict working time of 9.15 hours per day.

3. Engaging with community – CSR :

CSR a subset of their sustainability approach focuses on – **Healthcare, Education, Art and Culture, Rural uplift and**

² iRace - (Infosys Role and Career Enhancement), an HR exercise aimed at career restructuring.

rehabilitation and **T**argeted inclusive growth – which they call HEART. They encourage employee participation across various CSR initiatives. For example, Spark³ is an organization wide initiative which reached 67,500 students to raise their aspirations and involved 3,372 volunteers within the organization. Few of their achievements are shown in Figure 7.

Figure 7



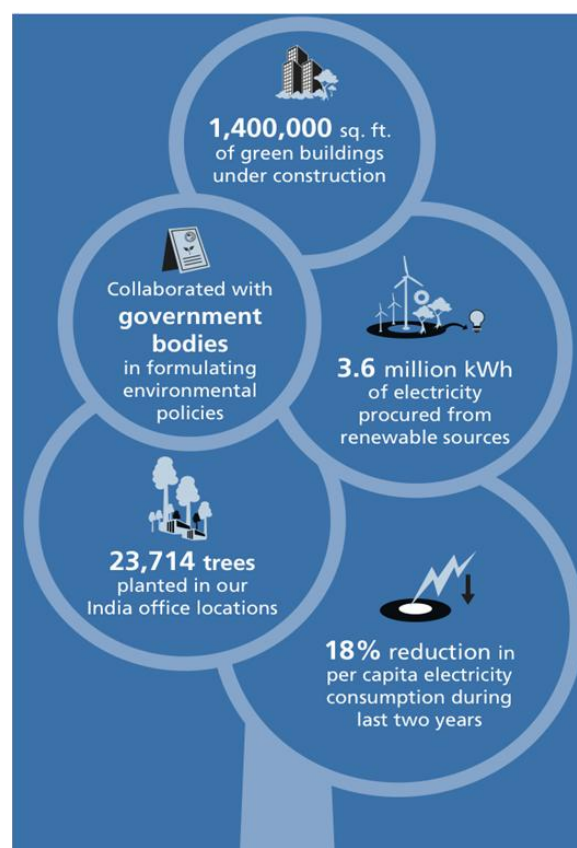
Source: Infosys FY 2009-2010 Sustainability Report

Resource Efficiency:

³ Spark includes – Catch them young, Rural Research Program, creating talent pool in rural areas – to name a few.

By Resource Efficiency, Infosys focuses on reducing the impact on the environment due to their business operations. Infosys has invested in green buildings, conserving electricity, reuse of paper, recycle water and waste management. Infosys engages with the government to create more sustainable business environment. For example, in the state of Karnataka Infosys has succeeded in getting their surcharge waived on open access to transactions. Infosys also hosted a Climate Roadmap Sub-national Workshop in the southern region of India in collaboration with International Council for Local Environmental Initiatives (ICLEI) association, which showcased the best practices adopted by Infosys in managing the environment. Few achievements related to resource efficiency are shown in Figure 8.

Figure 8



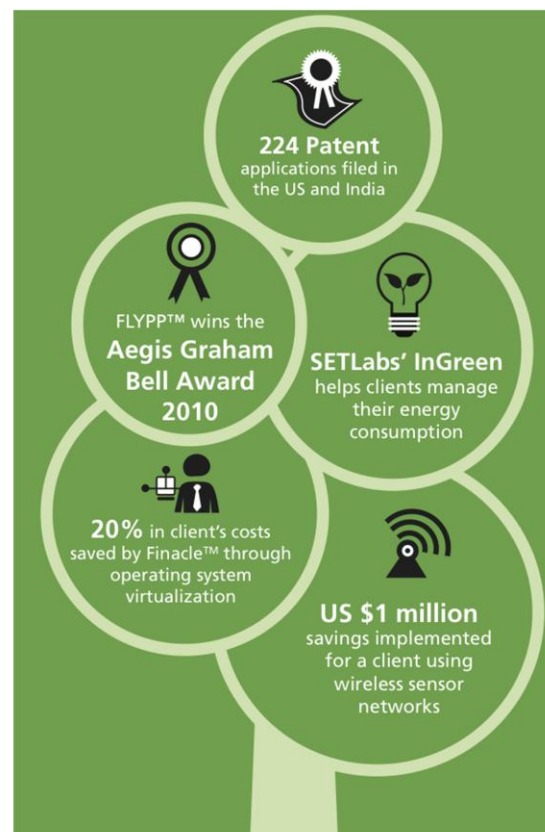
Source: Infosys FY 2009-2010 Sustainability Report

Green Innovation:

Infosys creates sustainable solutions to optimize production and thereby reduces the energy consumption. They use technology which is their core

competency to provide innovative solutions to clients in the areas of intelligent building design, Green logistics and Supply chain management by collaborating with business partners, clients and alliances. For example, InGreen Energy Management application developed by SETLabs⁴ enables managing energy consumption and carbon footprint. Noteworthy achievements are shown in Figure 9.

Figure 9



- Source: Infosys FY 2009-2010 Sustainability Report

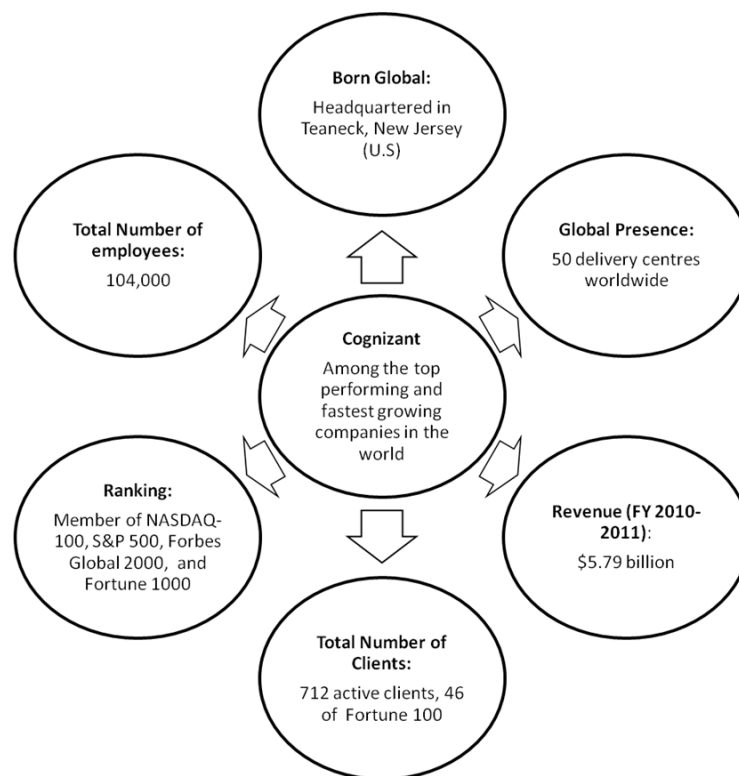
4.3 Cognizant Technology Solutions (Cognizant)

Cognizant Technology Solutions (Cognizant) is an Indian-based global IT service provided born in 1994 as an IT development and maintenance

⁴ Infosys SETLabs, the research arm of Infosys, offers thought leadership through cutting-edge research.

services division of the Dun & Bradstreet Corporation with Kumar Mahadeva as its CEO. Today it is among the top performing and fastest growing companies in the world with CEO Francisco D’Souza running the show. Few important facts about the company are shown in Figure 10.

Figure 10



- Adapted from Cognizant website: <http://www.cognizant.com/aboutus>

4.3.1 Mission

As mentioned in their 2010 corporate fact sheet report (FY 2009-2010) Cognizant has an impressive mission:

To dedicate our business process and technology innovation know-how, deep industry expertise and worldwide resources to working together with clients to make their business stronger.

4.3.2 Value

The core value proposition of Cognizant recognizes the “Client-first” culture. Their value proposition states

As a customer-centric, relationship-driven partner, we are redefining the way companies experience and benefit from global services.

Their mentioned cultural value drivers are Open, Transparent, Driven, Empowered, Opportunity-filled, Flexible and collaborative. Cognizant claims that these seven attribute drives their commitment to be an innovative organization⁵ that provides strategic consulting, greater flexibility, higher efficiency and lower costs with distinct culture of high customer satisfaction.

(http://www.cognizant.com/RecentHighlights/Corporate_Fact_Sheet.pdf, 2011)

Apart from this Cognizant claims that building a sustainable business and giving back to the society is one of their core values. (<http://www.cognizant.com/aboutus/corporate-social-responsibility>, 2011)

4.3.3 Sustainability

If we look at the vision and mission of Cognizant it can be seen that their focus is more towards innovation and customer satisfaction. It is interesting to see that Cognizant came out with its first formal sustainability report only in 2010. Their focus towards sustainability is focused more towards giving back to the society. Nevertheless, they claim to provide best solutions for people and the environment, conduct business process employing the highest standards of corporate and personal conduct and serve their customers in order to sustain their future.

Cognizant has identified the forces which they believe will shape the Future for Work – Globalization, Millennial⁶ generation, Virtualization, Technology and they also believe that these forces affect sustainability as

⁵ Refer Appendix E – Cognizant's 10 steps: Building a culture nurturing innovation

⁶ Millennial Generation – describes the demographic change following Generation X. According to Cognizant this represents “an ethically and radically diverse generation of young adults whose oldest members have just hit 30 and whose mindset is revamping everything from communication to innovation outside and inside the organization”(Cognizant Sustainability Report FY2010-2011)

well. Figure 11 shows the pictorial representation of Future of Work Forces and Sustainability.

Figure 11



- Source: Cognizant Sustainability Report FY2010-2011

4.3.4 Sustainability and CSR Initiatives

The sustainability report captures the sustainability program and enhanced focus on its definition based on the GRI reporting standards. They have five major themes namely,

1. Commitment to customers
2. Educating the future

3. Governance and ethics
4. Stewards for the environment
5. Responsibility at work

for creating the future of work– their current aim for sustainability.

Commitment to customers:

As Cognizant claims itself as a highly customer-centric company they consider customer satisfaction as their primary value discipline. EquaTerra⁷ has ranked them No.1 in Europe for customer satisfaction. They have developed a “two-in-a-box⁸” client engagement model. With this approach they provide enriched services to each of their clients and have tremendously reduced their operational costs.

Like other companies listed in this report Cognizant has build a global delivery model based on Web 2.0 technology. This global delivery platform is called Cognizant 2.0 which lets the clients, associates, partners, employees dispersed globally to work together. This fosters real time collaboration in sharing the widespread experience and insights.

One can question what customer satisfaction has got to do with sustainability. In the context of sustainability cognizant claims that customer satisfaction provides insight of how Cognizant approaches and maintains its relationship with one of its stakeholder groups which looks like only doing business in the usual way.

Educating the future:

Cognizant sees the existence of scarcity of knowledge especially because they are headquartered in USA and call themselves to be born global. They see the global view on how education drives the social and

⁷ EquaTerra is a provider of IT advisory services.

⁸ Cognizant places a senior partner onsite with the client team. The client partner is the team’s leader and works closely with the client absorbing client’s culture, operational processes, business goals and challenges.

economical transformation. They understand the challenges⁹ and issues related to the public education system in India. Based on a report generated by a Center on Education and the workforce it is evident that by 2018 job openings in STEM (Science, Technology, Engineering and Math) -related fields will be eight million but the next generation of U.S. workers will be under qualified to take participate.

The reasons mentioned above form the basis of the initiatives related to educating the future. Outreach is a volunteer program of Cognizant which promotes the cause of education with the help of voluntary efforts of its employees and administrative and financial support of the company. For example in 2010, through employee volunteering Cognizant positively impacted 130,000 lives of underprivileged students in the public schools.

Cognizant collaborates with NGOs to promote education as well. For example, in Pune, they collaborated with NGO Akshar Bharathi to establish 12 libraries to help rural children gain access to high quality educational materials and books.

Governance and Ethics:

Cognizant claims to take their governance responsibilities very seriously. They consider strong ethics, openness and transparency strengthen their core values. Their code of ethics is designed to

1. Communicate the principles of business ethics, legal requirements and policies.
2. Make the employees of Cognizant understand the importance of governance and ethics to retain their reputation.
3. Make decisions which conduct business in the right and ethical way with higher integrity and honesty.
4. Gain the trust and confidence of various stakeholders

⁹ 230 out of 360 million children are enrolled in school but only 53% of students study beyond the eighth grade.

Stewards for the environment:

The focus areas related to environment protection are energy conservation, waste reduction and disposal, and recycling. This is similar to initiatives taken up by other companies we have seen till now. They have a two year old Go Green program which drives their environment initiatives. The main target of this initiative is reduction of carbon emissions, paper and energy use. This initiative will soon include waste, hazardous material and water use targets according to their sustainability report.

Some of their achievements are

1. Carbon emission reduction by 28% since 2008.
2. Energy consumption reduction by 29% since 2008.
3. Three new green buildings constructed that won LEED golden rated awards.
4. Paper consumption reduction by 2.2 million pages per year.

Responsibility at work:

Cognizant commits to attracting and retaining high-quality employees as they consider human capital to be their primary asset.

Training and Development: In 2010, the attrition rate at Cognizant was 18.3% which was favourable compared to other players in the industry. They enhance the talent and skills of their employees by committing to continuous learning, giving their employees opportunities to stay current with leading-edge technologies and to develop effective communication skills. The training is conducted through Cognizant Academy which is their in-house training center.

Diversity: Cognizant has shown its interest in addressing the issues related to diversity. They strive to increase the number of women employees in senior leadership and management roles globally. They have begun a Women's initiative which provides an interactive forum for women employees to connect and share ideas and best practices. Again

their born global element provides the basis for considering diversity with greater importance.

Employee Satisfaction and Working Conditions: Cognizant has various surveys to understand what their employees feel and want. For example, the Business Effectiveness Survey and the Internal Satisfaction Survey provides them with continuous reality checks. More than 80% of their employees take part in these surveys. Feedbacks from these surveys are absorbed in and effective changes are made. Cognizant claims to have excellent working conditions and bank on the green building that they have built. Apart from this they have launched an initiative called Touchstone which focuses on improving the occupational health and safety across all the workplaces in India. Under this initiative they identify hazards in workplace and provide best solutions for the same.

Going forward the report will analyse the strategy these companies (TCS, Infosys, Cognizant) have adopted with respect to sustainability.

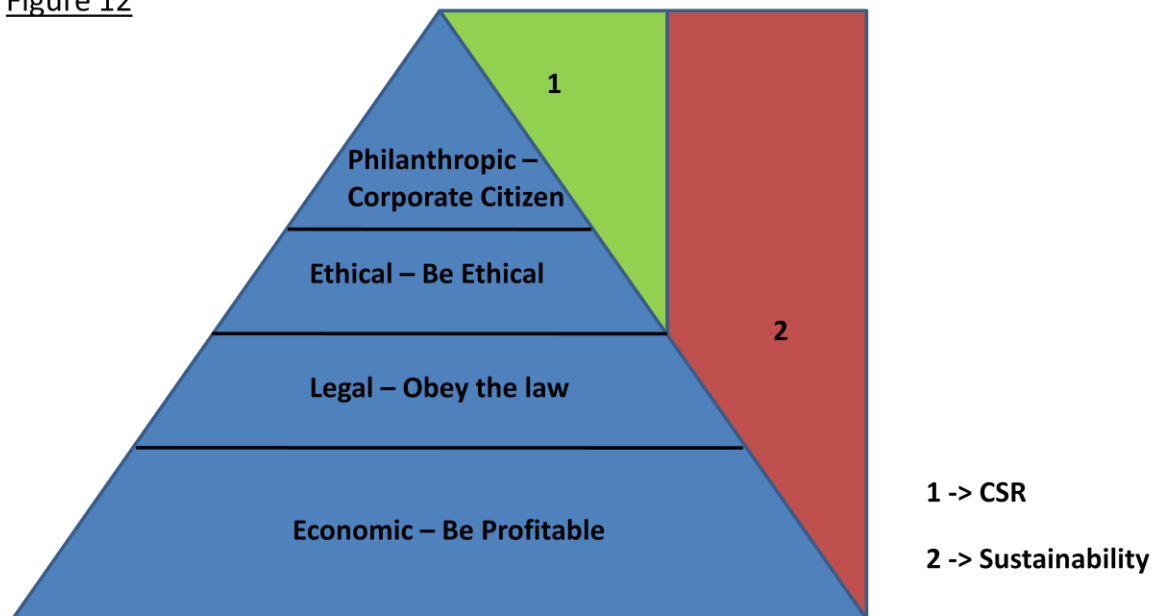
5. Strategic Sustainability

5.2 Sustainability and CSR – Carroll's Model

There are various definitions of CSR that has evolved over a period of time (Carroll, 1999). Considering the basic model of CSR by Carroll (1979), it is interesting to see how TCS, Infosys and Cognizant has

separated the four levels of Economic, Legal, Ethical and Philanthropic Responsibilities into two. From the website and the sustainability reports and combination of Carroll's model, the model for these companies will look like Figure 12.

Figure 12



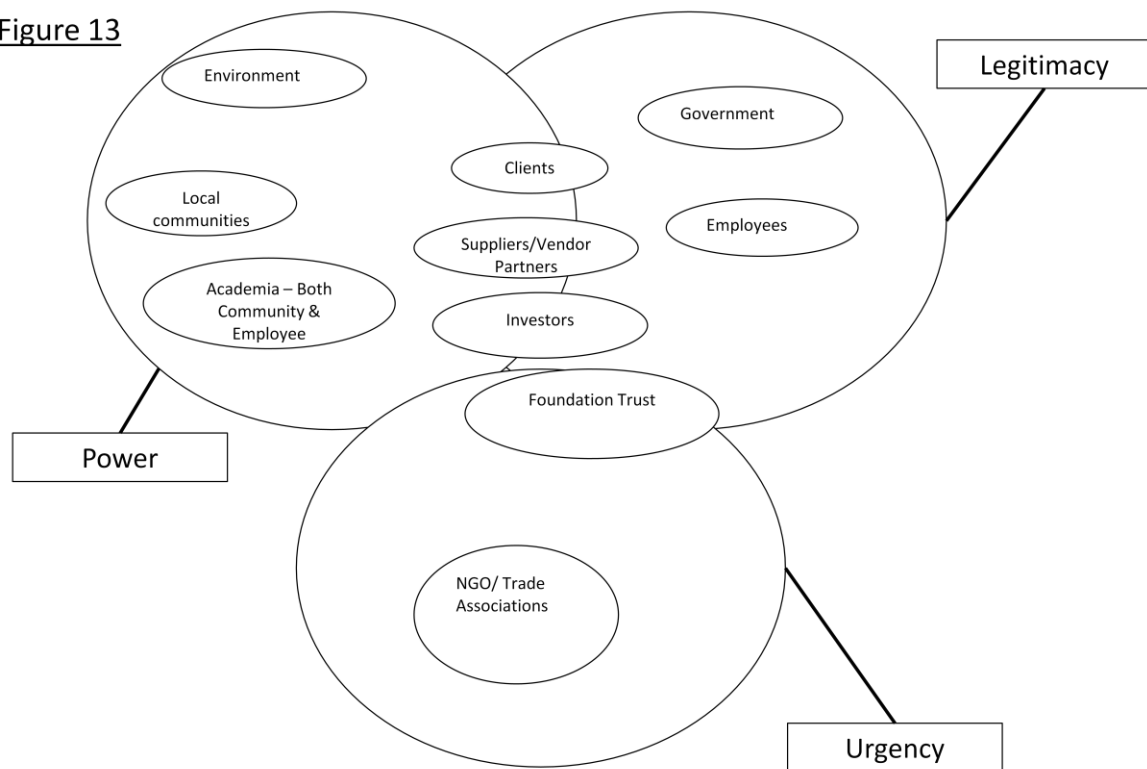
Adapted from Carroll's model & Self Analysis

These three companies see CSR as a subset of their sustainability initiatives and distinguish CSR to be a separate entity concentrating only on being ethical and doing social justice. Hence, in this report the term Sustainability is used for addressing their various market and non-market initiatives and CSR is used to capture their philanthropic deeds.

5.3 Stakeholder Analysis

TCS, Infosys and Cognizant have clearly identified who their stakeholders are in their sustainability reports. Considering the stakeholder model of Mitchell et al. (1997) and the list of stakeholders the model will look like Figure 13.

Figure 13



- Adapted from Mitchell et al. 1997

It can be interpreted from the model that Clients, Suppliers/Vendor Partners and Investors are Definitive stakeholders as they are both legitimate and Powerful for all the three companies. Demanding NGOs and Trade Associations invoke sense of urgency and hence they are Dangerous stakeholders. All the three companies should also consider media and communication as one of their stakeholders as they also create a sense of urgency and are very dangerous. The powerful stakeholders fall into the category of dormant stakeholder.

5.4 Integration with business strategy

All the three companies have taken steps to manage risks holistically by identifying the expectations of their stakeholders and potential risk

management practises. All the three companies have considered the feedback from their stakeholders. By understanding the expectations of the stakeholders they have mapped these expectations against their company's business and operations. Interestingly all the examined companies have mapped of expectation in accordance to the Global Reporting Initiative (GRI¹⁰) framework.

TCS has tried to link their stakeholder engagement methodology with AccountAbility's AA 1000 SES Stakeholder Engagement Standard. They have applied a materiality filter in order to strike a fine balance between their business and their key stakeholder requirement.

Infosys has its enterprise-wide Risk Management (IRM) framework evaluates and manages the risk to enable the organization to meet or exceed the requirements of their stakeholders. Infosys has a fundamental business model called as Predictable, Sustainable, Profitable, and De-risked (PSPD) and the IRM framework is neatly embedded within this basic business model. This synergy has let Infosys find out potential risks and create opportunities by managing those risks effectively.

Cognizant has a sustainability reporting committee chaired by their vice president of Sustainability, which regularly interacts with various stakeholders. This committee reviews the GRI indicators to determine which are more related to business based on the interaction with the stakeholders.

The various sustainability and CSR initiatives listed in the previous section are based on the risks identified using the GRI framework. This shows the attempt of the organizations to keep all its initiatives related to sustainability in sync with the business operations.

¹⁰ The Global Reporting Initiative (GRI) is a network-based organization that pioneered the world's most widely used sustainability reporting framework. The Reporting Framework sets out the principles and Performance Indicators that organizations can use to measure and report their economic, environmental, and social performance.

5.5 Motivations for sustainability

“Sustainability is not a reaction to our risks. It is our core value”

- S. D. Shibulala, Chief Operating Officer and Director,
Infosys

“While we have been a socially responsible company since our establishment in 1994, Cognizant expects to be an even smarter and more responsive organization ahead. We will achieve this goal by executing our sustainability strategy and measuring performance”

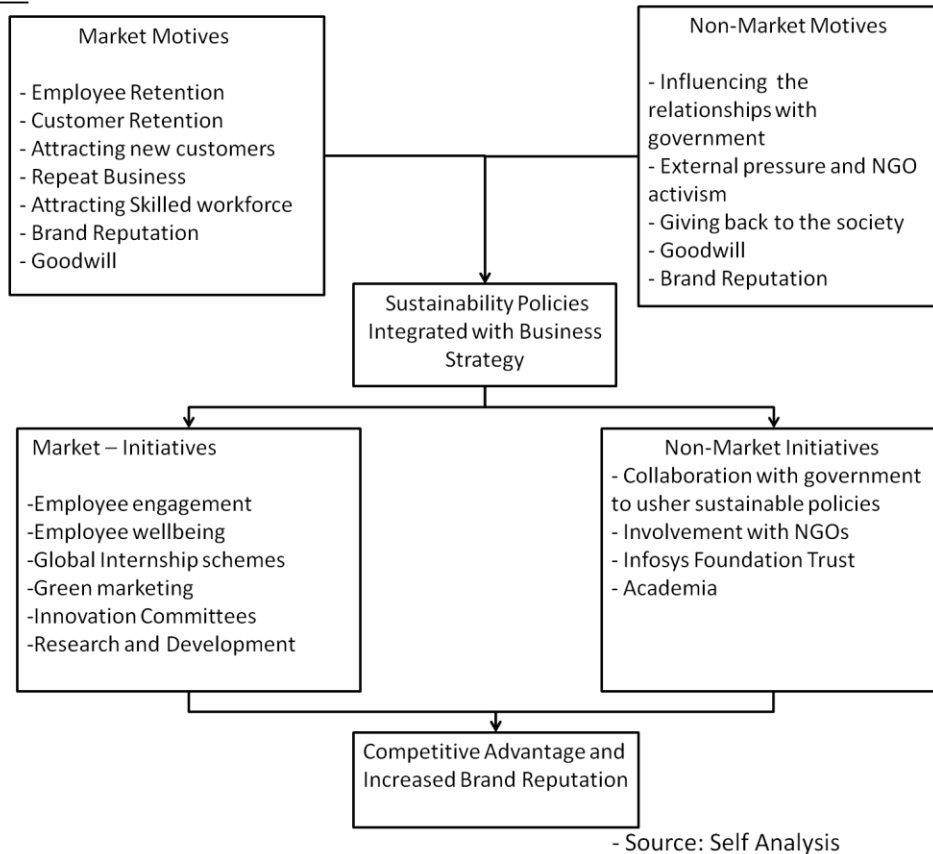
- Mark Greenlaw, VP of Sustainability,
Cognizant

“The term corporate sustainability is of relatively recent vintage. Not so the philosophy of social responsibility that underlines the Tata way of conducting its businesses. The multitude of social development and environment initiatives Tata has nurtured from its earliest days flows from a wellspring of voluntary, as opposed to obligatory, commitment”

- TATA groups commitment

These strong statements clearly show the claim of the companies being proactive in order to have a sustainable tomorrow and a strong inclination towards doing social good (especially TCS, TATA group). The motivation factors (both market and non-market) are not different to these companies. If we glance through the Section 3 again we can see that there are various market and non-market motivations which have led to the integration of business strategy with sustainability policies – creating competitive advantage and enhancing brand reputation. Figure 14 is a self descriptive diagram which captures the market and non-market motives and shows how the sustainable policies help in creating a competitive advantage to these companies.

Figure 14



5.6 Market and Non-market Environment Integration

The porter's five force analysis for the IT industry in India (Refer Appendix B) clearly shows that the market is highly attractive. The companies have taken steps to produce differentiated products and services through their Resource Efficiency and Green Innovation initiatives. TCS, Infosys and Cognizant have been in par with each other on its CSR initiatives (<http://www.karmayog.org>, 2009 CSR rating).

Many issues on the non-market side (e.g.: Engaging with NGOs, working with the government, R&D to tackle technological changes, discovering tools to measure and manage carbon footprint etc) has also been addressed by Infosys and taken care of in their initiatives. But from various criticism related to employee appraisal, welfare and the recent accusation from a former employee regarding Infosys bending the rules to circumvent US visa restrictions, lawsuit filed against Cognizant for misuse of H-1B visas (www.livemint.com, 2011) and criticism on TCS for not

being transparent with respect to EVA calculations(www.icmrindia.org, 2011) has produced huge negative publicity in Media. How well are they being reactive to this dangerous stakeholder is questionable.

Figure 14 (shown above) illustrates how the market and the non-market motives gel together to form the integrated strategy for Infosys. This can be linked to Baron's integrated framework as well.

5.7 Non-market Environment Positioning

N.R. Narayana Murthy, founder and currently the chief mentor of Infosys believes that corporate in developing countries like India should have responsibilities to engage in philanthropic acts to help underprivileged people. He also believes that the government just cannot take care of all the issues and the corporate should become responsible by contributing to the society. Few of Mr. Murthy's words are,

"But now the awareness has become widespread, simply because corporations have realized that unless you have earned the goodwill of society, you cannot sustain your growth and cannot be a long term player in society. So because of all that, most of the big or medium-size corporations have all started taking part in corporate social responsibilities"

In all the three companies examined above, certain amount to profit is contributed to their trusts which address the basic needs of the poor people. The foundations have built hospitals, libraries, given scholarships to students etc. All this clearly shows that the companies has considered CSR to do only philanthropic activities and their main focus on the non-market side is to help the society and to gain goodwill. Is this a marketing gimmick?

Businesses should understand that people living in poverty can be a great assets to their companies. Those living in poverty provide bright opportunities to business especially the private sector. The private sector

can achieve growth, innovation and profit by utilizing the characteristics, size and underdeveloped economic activity of the poor. Consequently, the lives of poor can be improved by creating access to various markets, generating new employment opportunities and by creating access to products and services. Only with the development of inclusive businesses the IT sector can make important contributions to poverty alleviation and build a strong business case.

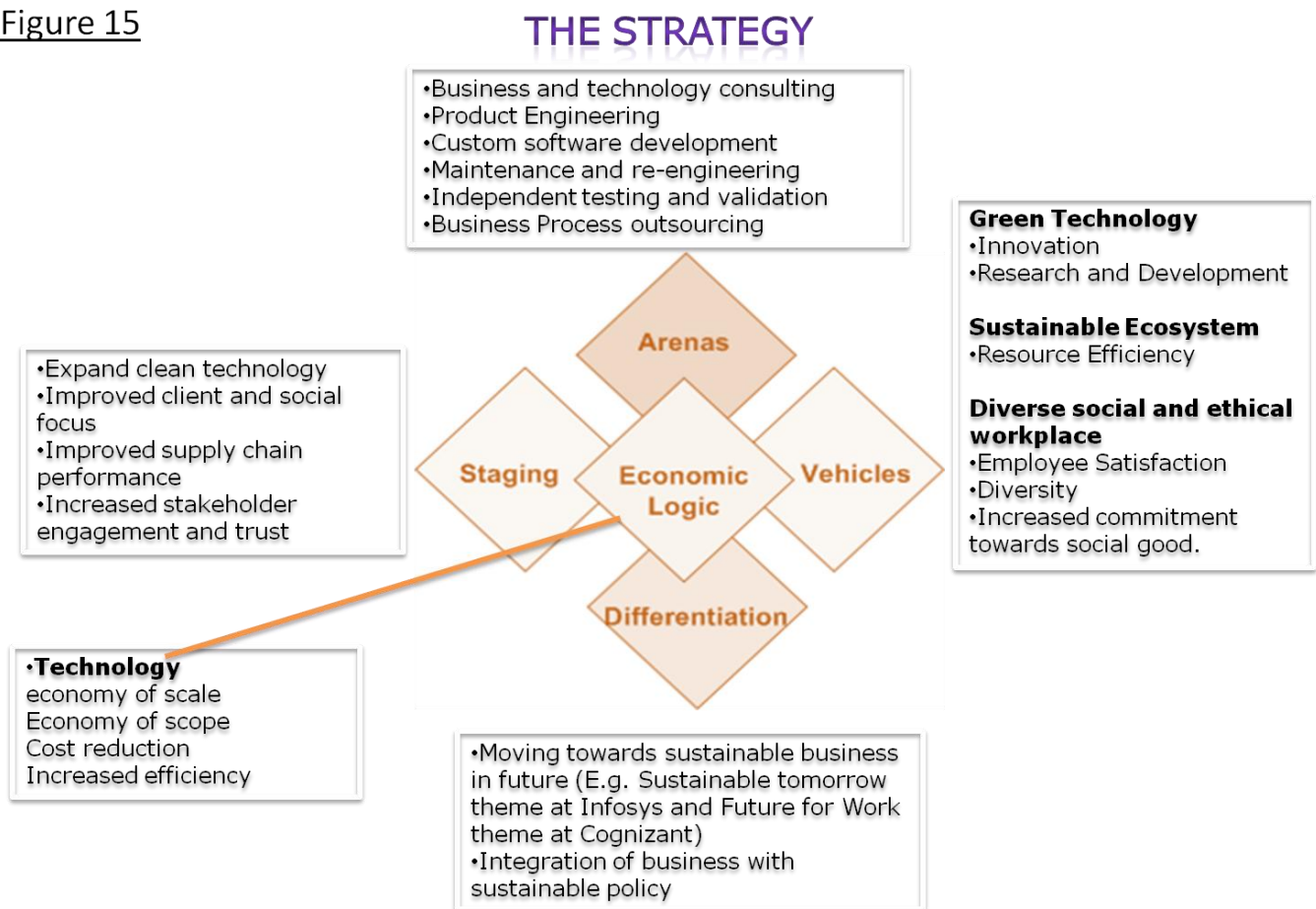
Though companies have focused on other non-market issues like dealing with the government to usher sustainability policies and getting other benefits, managing the environment and effective utilization of resources to enhance business most of their initiatives are positioned to affect public sentiments.

5.8 Elements of Strategy

All the three companies have recognized that sustainability is a business imperative and has chosen sustainable business in future as a strategic theme to engage with their stakeholders (TCS, Infosys, and Cognizant Sustainability Report FY2009-2010). With respect to building a sustainable future, the companies have defined their materiality based on three focus area highlighted in Sections 3.1.3, 3.2.4 and 3.3.4

With the help of Hambrick and Fredrickson's model for strategy we can see if the companies have a focused strong strategy. Figure 15 shows the mapping of the six elements of strategy with the sustainable approaches.

Figure 15



Based on Hambrick Fredrickson (6 elements of Strategy)

It can be seen from the analysis that Infosys has a clear strategy for their business. Infosys has always a sustainable approach to business. They are aware that their growth is closely linked with the presence of healthy

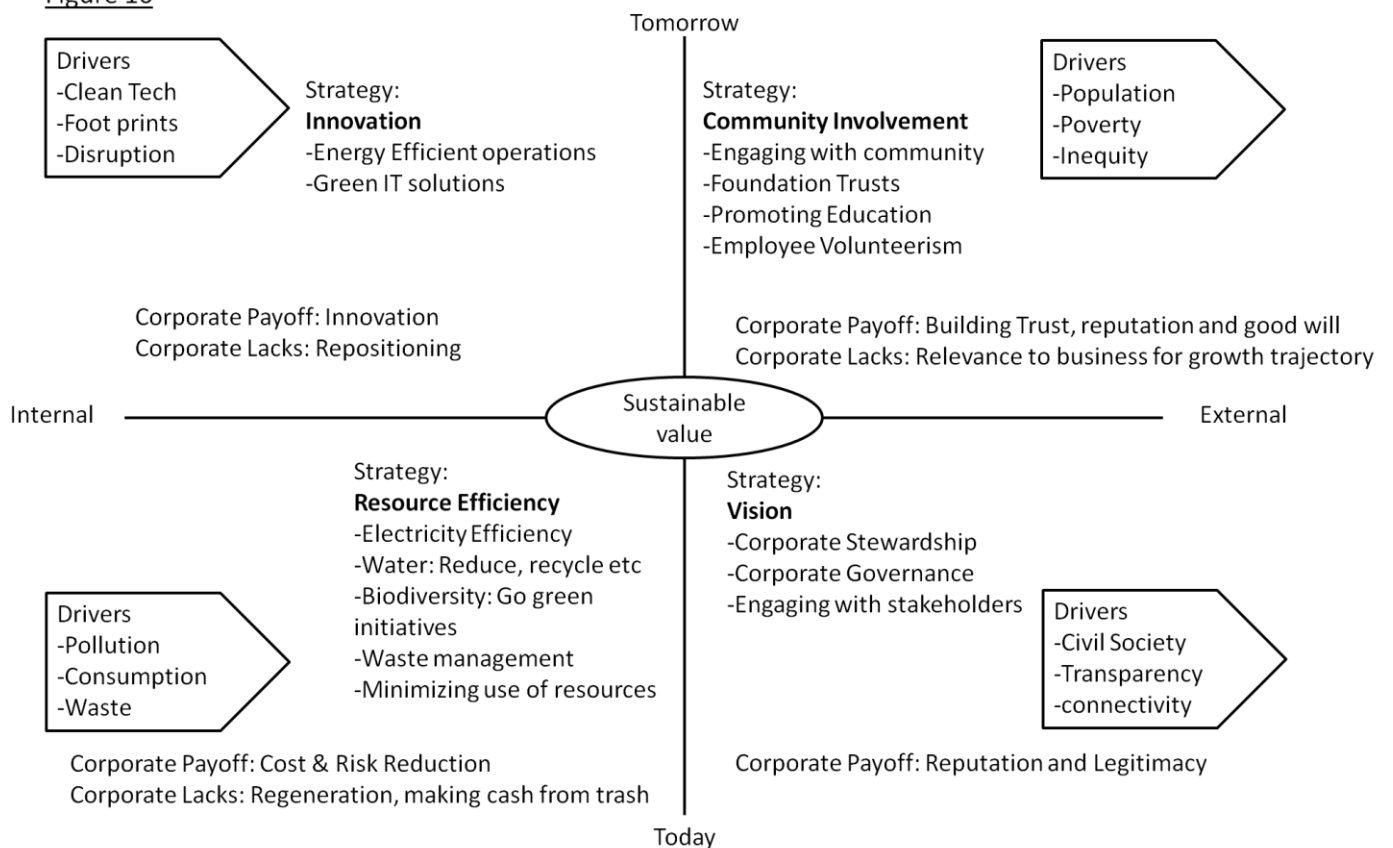
ecosystem that includes the well being of clients, employees, business partners, local communities and the environment.

Now that we have seen that Infosys has a strategy in place, the next section in this report further analyses if this strategy creates a sustainable value.

5.9 Sustainable Value Framework

The sustainable value framework of Hart and Milstein (2003) is a useful model to analyse the strategies and its various drivers. The framework shows how the strategies used by the organizations can create sustainable value to the organization by creating growth opportunities. Figure 16 is a self explanatory representation of sustainable strategies mapped accordingly to the sustainable value framework.

Figure 16



Source: Adapted from Sustainable Value Framework, Hart and Milstein (2003) and self-analysis

It can be clearly seen that the companies are creating sustainable value and competitive advantage. The sustainability policy is holistic which directly increases the organization's performance. It is interesting to see how all the three companies have shown their key economic ratios and profit information in their sustainability report (Infosys FY 2009-2010, TCS FY 2009-2010, Cognizant FY 2010-2011). They have transitioned to International Financial Reporting Standards (IFRS) to US GAAP (effective March 31, 2009). This not only increases their credibility but also provides a strong link between sustainability and economic performance of the organizations.

6. Gaps and Business model Recommendation

6.2 Identifying gaps

The sustainable value framework analysis clearly shows that the companies are on a weaker stand in accelerating repositioning through clean technology and in crystallizing the firm's growth path and trajectory through a sustainable vision.

Clean technology is not only the incremental improvement linked with pollution prevention but also the innovations that are radical leading to discontinuous improvement (Hart and Milstein, 2003). The companies are currently focusing in reduction of negative impacts of their operations with the help of Green Innovation. It's impressive to see that Infosys is helping its clients as well to adopt green technology. However, these companies should concentrate more on solving social and environmental issues with the help of internal development or acquisitions of new capabilities addressing the sustainability challenge directly. They should move one step ahead from reducing negative impacts to creating positive impacts – not just being sustainable but being regenerative.

Growing distance between the rich and poor, and the needs of those at the bottom of the economic pyramid presents various opportunities for organizations to define a trajectory for future growth (Hart and Milstein,

2003). All the three companies have been active in its philanthropy¹¹. But its relevance to business looks bleak. We can see companies like HP creating an R&D laboratory in rural India in order to understand the needs of the rural poor. Instrumental view of CSR suggests that CSR should be used as a strategic tool to align the social goal with business goal to promote economic objective of an organization (Margolis and Walsh, 2003). Hence, the companies should concentrate more on creating a business case to gain trust from the society.

Though all the companies have shown its focus on collaboration they have to go the next level of being open companies which can create a common platform for multiple stakeholders including clients and society. This has been highlighted in the principles of recommended business model in section 6.4.1. IT companies have the capacity to learn from the sustainability initiatives from their clients as they most of Indian IT companies are global and have a client spread in various industries across the world. For example,

1. **Cisco**¹² is a client of TCS. In 2009, TCS formed a strategic alliance with Cisco with the main focus on Next Generation Data Centers. This definitely is a good start in terms of business operations. When it comes to sustainability Cisco has created a Cisco Networked Sustainability Framework that brings together energy efficiencies, innovative business solutions, partnerships. This is a holistic approach to increase the overall operational performance, reduce GHG emissions. They have various products and services which can help businesses behave in a sustainable way. TCS has not been involved in this framework and are just one tiny step behind in reaching higher sustainability with the help of their clients.
2. **Boeing**¹³ is a client of Infosys. With respect to transparency Infosys can learn from Boeing. It is interesting to see how Boeing measures

¹¹ Refer Sustainability and CSR Initiatives for further details on Philanthropic acts of the companies.

¹² Cisco Systems, Inc. is the worldwide leader in networking for the Internet

¹³ Boeing is the world's leading aerospace company and the largest manufacturer of commercial jetliners and military aircraft combine

their progress with respect to energy conservation, carbon dioxide emissions, water intake, hazardous waste and solid waste diverted from landfills in a very transparent way. All the information is available in their website - http://boeing.com/aboutus/environment/environment_report_11/5_measuring_pg_0.html and they have been doing this since 2002. Infosys can adapt such good practices from their clients provided they include them in the collaborative loop.

3. **John Deere** is a client of Cognizant. It is a global company providing products and services for agriculture, residential, commercial, golf & turf, engines, construction and forestry. Safeguarding the environment has been their main focus area and it's not new to the company at all. John Deere provides products that are designed for efficiency and productivity. Systems that sustain the quality of air and water. Cognizant can interact more with such clients if not to use their products but to learn about how they deal with water, energy and waste to protect the environment. John Deere is established in India as well. Probably Cognizant can use their products in their construction sites to reduce the impact on environment.

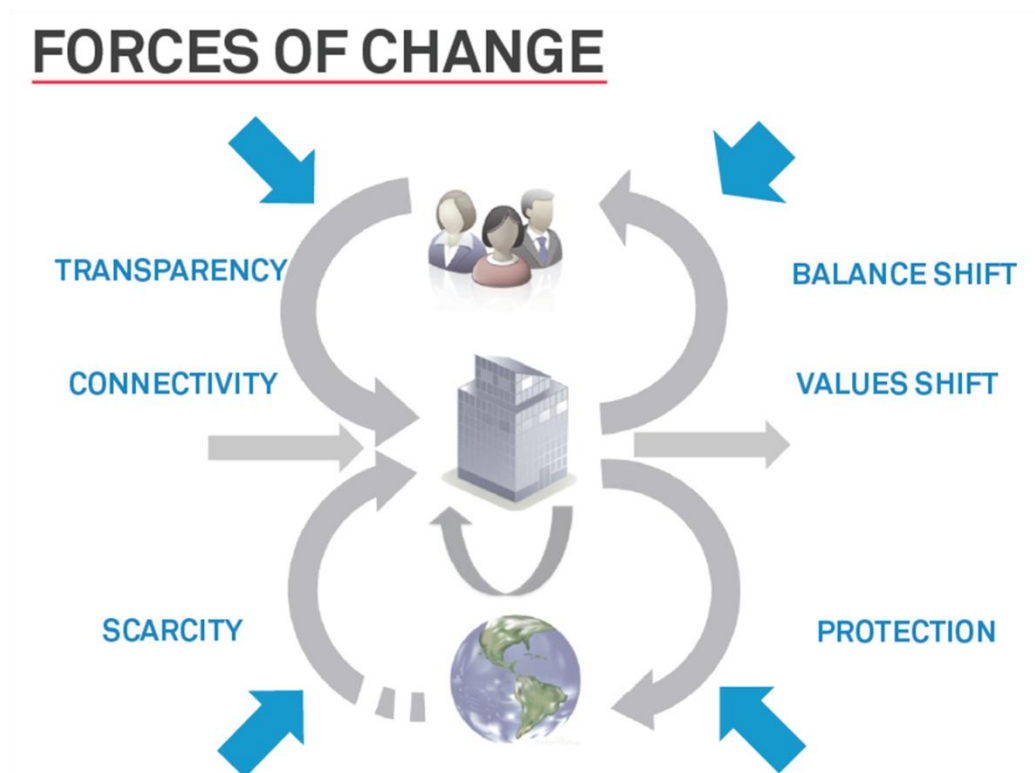
Collaboration, innovation and transparency are few aspects that the Indian IT companies can exploit more to achieve higher sustainability. But for doing so they should know the forces and trends related to current challenges in the world. Going forward the report will focus on the outlining the trends and forces that is affecting various businesses globally.

6.3 BITC's Visioning the Future

Visioning the Future is one of the programmes in BITC that helps companies vision the future. It helps the companies to investigate on long-term trends and forces that will affect the business to run in future. BITC has come up with a document called "The Forces of Change/ the drivers and trends" which can serve as a helpful reference to businesses especially those which are keen on exploring the future opportunities to deliver a healthy stakeholders return in the volatile global economy and at the same time to contribute to the long-term well being of the society and environment/planet. In the next section the report will elaborate on the forces for change that the companies should consider in order to survive in future economic and social conditions. The forces are relevant to all the businesses and specificity to Indian IT companies are brought in as and when required.

6.3.1 Forces for Change

Figure 17



Source: BITC CPSLTools document, 2011

Balance Shift: Compared to the developed economy the developing economies are becoming the largest and the fastest growing markets. There are strong possibilities that the emerging markets can outpace the west in developing appropriate, cost effective and energy effective ways to serve the dramatically increasing rise in consumer needs. The top trends identified by BITC are

1. **Global economy:** Developing economies like India, China, Brazil will be the peak economies in 2050.
2. **Population growth:** The global population will hit a count of 9 billion by 2050.
3. **Disparities in wealth:** Organizations for Economic Cooperation and Development (OECD) nations has higher inequality in 2011 that at any point in the previous 20 years.
4. **Migration:** 200 million people are expected to move each year because of hunger, environmental deprivation and unavailability of land.

Indian IT companies should consider this force for change and see how they can maximize their business efficiency considering the fact that they are operating in one of the fastest growing markets. They have abundance of talent pool to tap in and can create better sustainable solutions for their clients and the society.

Scarcity: The concept of scarcity is not new. We live in a finite world, which is undeniable. Accelerating industrialization, increasing population growth, extensive malnutrition, depletion of non-renewable resources and a depleting environment are the major global concerns. Natural resources are depleting due to increasing human ecological footprint. This compels the businesses to move towards resource effectiveness – trying not just to use less but to see how they can increase the availability of resources.

Indian IT companies have already moved in resource efficiency but the targets that they set at very low. They should consider this force for

change very seriously and should find out ways to generate resources by efficient waste management. For examples instead of just creating a green building they can adopt building designs which generate electricity by collaborating with companies like Tata Steel Europe (detailed description can be found in the principles section of regenerative business model).

Protection:

In the Convention on Biological Diversity (CBD) of the COP10¹⁴, the nations came together to face the fact that our efforts to restrict the mass extinction has failed. Reducing the diversity of life on the planet will take us back to a stage where humans didn't exist. It is evident that the natural capital is declining – for example soil, fisheries, forests, oil and a healthy atmosphere is at threat.

Most of the top IT giants in India are global companies. It becomes their duty to consider global issues in order to be sustainable in future. There are companies like Fujitsu (global IT Company) which works towards conservation of biodiversity and sustainable utilization of natural resources. They do this by analysing and evaluating company's impact on biodiversity at every single stage of their entire life cycle (of products and services). They contribute to their customer's and society's initiatives in order to protect biodiversity and utilize natural resources in the most sustainable way – they offer technologies and internal knowledge on biodiversity to accomplish this (<http://www.fujitsu.com/global>, 2011).

Transparency:

The environment and social awareness is spreading and growing among consumers. Consumers are more interested in knowing the approached in which the companies operate and look for a foolproof sustainable and ethical approach. With the extensive use of internet it becomes impossible for the companies to hide.

¹⁴ tenth meeting of the Conference of the Parties (COP 10) was held in Nagoya, Aichi Prefecture, Japan, from 18 to 29 October 2010

Companies can be forced to face shame in minutes. This is evident by the legal issues faced by the Indian IT companies. Such criticism questions the responsible behaviour of the companies and collapses their reputation and brand name easily. Indian IT companies should focus more on efficient reporting and should take up accountability while facing the media and society.

Connectedness:

It's a connected world. With the advent of communications technology, a platform for greater collaboration has arrived. According to the Forum for the Future, the use of teleworking and telepresence meetings has gone over two million of us in 2002 itself (twice when compared in 1997). Businesses can shape their processes and innovation tapping into the creative brains of not only their business partners but their consumers/customers/clients as well. Connectedness has threats to the businesses as well. Social media which is being used extensively will continue to make it simple for society to bring great pressure to companies. Small businesses find it easier to compete with bigger ones with the help of internet and web-based communities which opens the gateway to access suppliers, markets, funding and clients. Hence it's not only the Indian IT companies but every other business which should consider this force for change.

Values Shift:

Future human progress relies on ensuring that the remaining natural systems can support the human population. A widespread reconsideration of the values that support the society is being experienced today. A growing realisation can be seen with respect to apportion of value to natural systems and threats caused by the usual economic growth. Businesses that consider the value shift will provide solutions that will help the consumers reduce their impacts on the society and environment – restoration. It is mentioned in the Forces for Change document of BITC that

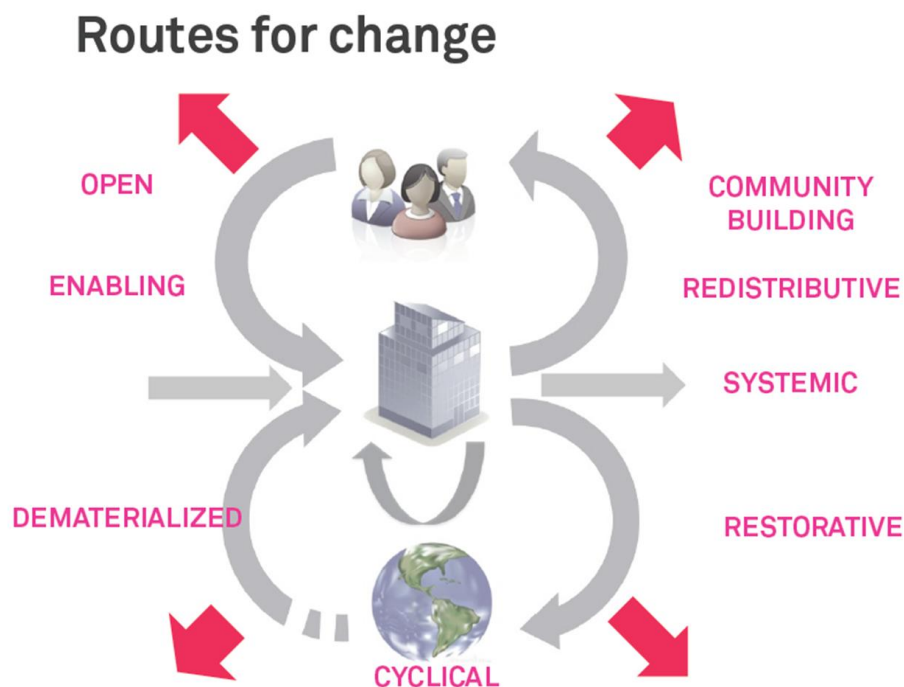
“A growing body of research reveals that shifting focus to experiences, relationships and meaningful activities rather than material gains will improve quality of life and overall well-being, whilst easing pressure on the environment.”

Businesses can exploit great opportunities by considering this value shift.

6.4 Regenerative Business Model

Figure 18 represents the regenerative business model. The various routes shown in the diagram leads to a regenerative business which goes one step beyond being just sustainable. The routes form the principles of the business model and in the following section an elaborate version of principles is shown with many business examples portraying best practices.

Figure 18



Source: BITC CPSLTools document, 2011

Note: The business model and principles were formulated as part of the internship with BITC.

6.4.1 Principles of Regenerative Business model

The routes are made into four principles which are

1. Open/Systemic
2. Redistributive/Enabling
3. Dematerialised (resource-light)
4. Restorative (waste-light)

Each principle has five sections

1. What – Says what this principle means
2. Why – Captures data showing why businesses should consider this principles
3. Questions – these are questions that can provoke businesses to think on different aspects and issues.
4. What for (Purpose) – What will the businesses get if they adopt this principle
5. Examples –best practices seen in various businesses are given as examples which can let other businesses to learn and explore new options

Open/Systemic:

What	Creating maximum value together through/with stakeholders/competitors transparently, openly and collaboratively
Why	<p><u>Scarcity:</u></p> <ul style="list-style-type: none">• Food, water and energy are inseparably linked which forms today's global security challenges. Business need to find different ways to modify whole systems in order to survive more sustainably¹⁵. <p><u>Balance Shift:</u></p> <ul style="list-style-type: none">• Business landscape is increasingly becoming volatile due to current social, economic and environmental

¹⁵ <http://www.guardian.co.uk/sustainable-business/sustainability-with-john-elkington/systemic-change-food-security>

factors. Companies that continue to work in silos will hinder learning and agility.

- Greentech and sustainable energy creation and use will be the prominent area of focus for emerging economies. Businesses need to be open/systemic to compete with new entrants emerging from the new global leaders.
- Opportunities for growth are available in abundance to the emerging and frontier markets when compared to the developed economies.
- "The latest Organisation for Economic Cooperation and Development (OECD) study on 16 to 65-year-olds, finds that 22% of the population in England and Wales is functionally illiterate. Interestingly in China, the share of those with higher education in the workforce is due to increase almost 10 times from 4.66% in 2001 to 44% in 2050" (Forces for Change, BITC, 2011.)
- Open source product and process development can lead to major innovations. 'Open' companies, those which have embraced the new ways to communicate with stakeholders, may be able to respond to rapidly evolving market places in the way that a more traditional 'closed' company may struggle.

Connectedness:

- The creation of new virtual global marketplaces offers sizeable business opportunities for those companies with business models flexible and nimble enough to take advantage. We are seeing the rise of the virtual corporation. This is a network of independent companies (suppliers, customers, even competitors) linked by information technology to share skills, costs, and access to one another's markets.
- Rising development cost (technology) and shorter product life cycles have led to economic pressures on innovation.
- Technology is advancing at breathtaking speed and its advances are fast changing our daily lives and the

	<p>way in which businesses operate.</p> <p><u>Transparency:</u></p> <ul style="list-style-type: none"> • Greater transparency favours companies to assemble and assess more comprehensive information on operations and impacts by encouraging and inviting users/customers to provide extensive inputs. Businesses might discover new markets, new products/services, build resilience, build trust, develop new partnerships etc. • Consumers will no longer be the end of a linear economic system. They will be the temporary users of products and services so business will depend on a richer exchange with what we once called "consumers."
Questions	<p><u>Scarcity:</u></p> <ul style="list-style-type: none"> • Could your business produce solely on-demand – with each product/service made exactly to customer needs? <p><u>Balance Shift:</u></p> <ul style="list-style-type: none"> • The global population will increase to 9 billion by 2050. Emerging economies will find higher percentage of population growth than the developed economies. Are you ready to offer products/services to the world's fastest growing market? Can you co-develop products/services with the emerging market to tap into their experience, knowledge, creativity etc? • Let's assume that your business can provide products/services to 9 billion consumers by 2050. Emerging markets of China, India, Brazil can outpace the West in developing appropriate low-cost and low-energy ways to serve the exploding rise in consumer needs. Can your business compete or sustain with these emerging markets? • With developed economies facing an aging and shrinking population, how will your business build, retain and enable the talent pool/workforce required

	<p>to meet your future needs?</p> <ul style="list-style-type: none"> • Do you integrate massively different perspectives (geography, industry) into your business planning? <p><u>Connectedness:</u></p> <ul style="list-style-type: none"> • Can you gather ideas from an incrementally broader group of people? • Can you partner with organizations, institutions, or groups that you previously considered completely outside the scope or scale of your organizational purpose to deliver improved quality of life by delivering products/services that help solve difficult environmental and social challenges ? <p><u>Transparency:</u></p> <ul style="list-style-type: none"> • To what extent does your business integrate consumer's ideas into the process of innovation? Can people directly contribute to a better collective outcome through your organization? • Can you harness "bottom-up" flows (from individuals/consumers and groups working at smaller scales) to augment your organization's positive impact by getting closer to the society, people, talent, ideas etc? • Can you catalyse the communities you operate in to better understand your markets/change, sourcing/localise, production etc? • 'None of us is as smart as all of us'. Can you broadly publicize your products and share/absorb ideas in order to figure out who would want them and what they're useful for by collaborating with multiple stakeholders? • Can opening up your processes and product by tapping into the talent, experience, ideas etc of consumers/stakeholders help you cut costs and overhead?
What for	<u>Scarcity:</u>

<p>(Purpose)</p>	<ul style="list-style-type: none"> • To (re)connect businesses to the communities they serve, employ etc ensuring licence to operate, access to resources, talent etc. • To evolve ecological thinking to invent new ways of operating and generating value for every stakeholder within the community it operates. <p><u>Balance Shift:</u></p> <ul style="list-style-type: none"> • To provide maximum opportunities for value creation, employment and innovation. • To connect and respond to real and emerging needs which will have opportunities for growth. • To develop insight and collaboration that will speed up innovation process and agility to react to the new market opportunities. <p><u>Connectedness:</u></p> <ul style="list-style-type: none"> • To tap into worldwide creativity (from suppliers, customers, even competitors etc) and insight to inform strategy (making it agile to exist in volatile market) and to bind this power of creativity to make more reliable and relevant products. • A shift to an open/systemic approach can appreciate and exploit the technological changes to trigger wise solutions. <p><u>Transparency:</u></p> <ul style="list-style-type: none"> • To create connection and meaning for wide audiences that could trigger the external motivation to contribute and could provide the missing links to transform a small idea into a significant breakthrough. • To co-create/co-design new, relevant and market specific products and services by embedding collected knowledge, skills and experience in the products and services. This will lead to create relationships with people that go well beyond seeing them as "consumers". • To encourage synergies across business ecosystem, engaging with multiple stakeholders in open,
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	<p>transparent ways ¹⁶.This involves working across industry to create a more profitable sustainable business environment by integrating the efforts across the supply chain enabling transformational change in operations.</p>
Examples	<ul style="list-style-type: none"> • Tata Steel Europe, has set up a Sustainable Building Envelope Centre, in collaboration with the Government of Welsh and the Low Carbon Research Institute to develop and promote green technologies for building projects. The centre has a team of technologists and researchers developing special types of steel sheets which are capable of converting a building to an energy generator from an energy consumer. • Amazon Mechanical Turk provides a platform to for businesses with an on-demand scalable workforce and thousands of projects for the “workers” who can work at their convenience. This provides workers in remote locations, the opportunity to select work and complete when they are free, instead for depending on a conventional employment. • Elemental Housing has developed a house for \$10,000, which is 50% of the standard price. They build half of the house but on full foundation with plumbing and other services targeting low income housing without sacrificing the desirable locations. These are built with extensive consultation with the residents, who soon build the rest of their house according to their budget, choice and taste. This brings a sense of pride and ownership of the new house at price fitting in their budgets. • KickStarter, is the largest platform for funding creative projects around the world. It is one of the recent fundraising platforms often called as “crowdfunding”. KickStarter works on a model that skips the traditional route for investments by

¹⁶ <http://www.guardian.co.uk/sustainable-business/blog/transformational-change-firms-future-ecosystems-communities>

gathering monetary resources from general public. Tens of thousands of people invest their money on projects across the spectrum of creative fields like music, film, art, technology, design, food, publishing and the likes, bypassing the traditional funding sources. The challenge is that a project must raise enough funds before it is too late.

Other examples:

- **Intel** has associated the leading science fiction authors to write short stories that uses Intel's technology in a futuristic way. This collection of stories would capture the reader's imagination with the company's current research, and would be called as "The Tomorrow Project". Intel believes that this can drive the aspirations of the customers and drive future adoption of its innovative products. This concept is called "future casting" – would drive the future technology to drive its uses, instead of responding to the needs of the market.
- **GreenXchange** was created for companies to share their research, innovation and design with each other, and also to make their patents available to the public. Each contributor commits to a non-assertion pledge to the exchange, which allows the patent to be used in other research organization for green product design. GreenXchange identifies that sharing the green innovations across a variety of industries will not pose a threat in terms of competition, as these would be used for a different purpose. Companies can select patents that can be made available for others for sustainability projects, if they are concerned about sharing the same with their competitors. GreenXchange creates a culture of sharing knowledge to promote open innovation and use the technologies that support networking.
- **Procter & Gamble** introduces a program called Connect and Develop, which rejuvenated its growth. Through this program P&G licenses or acquires products from companies and launch them into the markets under the P&G brand. Crest SpinBrush, Olay Regenerist and Swiffer Duster are some examples of success. P&G is now actively seeking external ideas and technologies through an extensive network of

	scouts.
Key Words	Innovation, consultation, collaboration, participation, agile, adaptive, responsive, decentralization, resilience

Redistributive/Enabling:

What	Creating maximum social value and economic benefits and levers for key stakeholders
Why	<p><u>Values Shift:</u></p> <ul style="list-style-type: none"> Consumers are increasingly realising that every pound spent is a vote cast. As values change, consumers are voting for brands and companies that show they are responding effectively to the great challenges of our age. New generation of Citizens will demand that we all live within our means to save our planet and ourselves. They will not only focus towards lower consumption economics, they will most likely be passionate advocates. <p><u>Balance Shift: Developing and Underserved Markets</u></p> <ul style="list-style-type: none"> An inequitable distribution of wealth can destroy the social wealth and health. More unequal countries have a poor human development progress, shrinking and worse social indicators and higher scales of economic insecurity and anxiety. In India, inequality has not only been growing among rich and the poor but has also been growing drastically among super rich and middle class (www.greenworldinvestor.com,2011). Poor find it tough to participate in the global market economy due to extreme inequity of wealth distribution, even though they constitute the majority of population, unexplored markets, skills etc. The rural sector of the developing markets is huge and made up of people who would welcome innovations that cannot now compete in developed

	<p>markets.</p> <ul style="list-style-type: none"> • Disruptive business models can be created and implemented at ease at the base of the pyramid and this has been demonstrated in various experiments (Hart and Christensen, 2002). • The developing market (esp. rural sector) can be a testing platform for sustainable living. Many of the innovations for the bottom of the pyramid can be absorbed into resource and energy intensive markets of the developed world. <p><u>Transparency:</u></p> <ul style="list-style-type: none"> • “As environmental and social awareness approaches a tipping point, consumers want to have confidence that brands have a bullet-proof sustainable and ethical approach. Today, consumers, employees and stakeholders are increasingly engaged in ongoing, two-way relationships with brands. The future of green consumerism will depend greatly on the ability to unite businesses and consumers” (http://smapp.rand.org/ise/ourfuture/Consumer/sec6_future.html). - The development of the internet has shown that popular brand websites listen as well as talk. For many leading brands, increasing component of their sites are user-driven (for example Howies, Timberland and lush websites) - Consumer power: “SURFWEAR company Mambo¹⁷ has bowed to public outrage and axed its legal opposition to a bid by the son of native title campaigner Eddie Mabo to trademark his family name” (http://www.theaustralian.com.au/news/nation/mambo-calls-off-trademark-case-to-get-onside-with-100-mabo/story-e6frg6nf-1226106988342). • Customers are increasingly showing interest in getting information on the sustainability of the
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	<p>products they buy. Businesses usually find it difficult to translate the complex sustainable issues into simple terms which the consumers can understand – this poses a tough challenge, especially in an increasingly time-poor consumer world.</p> <p>For example,</p> <ul style="list-style-type: none"> - Almost two thirds of people in UK say that buying ethical products is important, and 30 per cent seek out Fairtrade tea and coffee; and the same number of people who think it's important to buy healthy produce say they do so – 80 per cent of people (Source: Defra¹⁸). - TNS CAPI Omnibus findings showed that 70% of the population recognize the FAIRTRADE Mark. Findings also show understanding of the concept behind the Mark has increased, with 64% of the population linking the Mark to a better deal for producers in the developing world (Source: Fairtrade Foundation¹⁹) <p>This kind of awareness should be spread in developing countries as well to nurture sustainable living.</p>
<p>Questions</p>	<p><u>Values Shift:</u></p> <p>Do you consider the communities you serve as partners and colleagues, rather than merely as “consumers.” by co-opting consumer competence as a competitive strategy to promote divergent thinking, create collaborative knowledge to innovate etc?</p> <p>Do you really know what your consumers want in order to make consumption a value creating process which defines not only the identity of consumers but also the nature of what has to be produced?</p> <p>How much does your business depend on a healthy community to survive? How costly would it be for your business to operate in a hostile community?</p> <p>Do the benefits you bring to the communities around</p>

¹⁸ <http://www.defra.gov.uk/news/2011/04/06/people-want-healthy-local-food/>

¹⁹ http://www.fairtrade.org.uk/what_is_fairtrade/facts_and_figures.aspx

	<p>your business outweigh the costs?</p> <p>Can you equip people with tools, platforms and opportunities that explicitly help them to build their own economic activity in order to gain more buying power, market growth, stability and goodwill?</p> <p>Can people directly contribute to a better collective outcome through your business leading to improved business performance?</p> <p>Will the current business survive in the future if the trend of mass customization increases?</p> <p><u>Balance Shift: Developing and Underserved Markets</u></p> <p>Can your business nurture local markets and cultures, leverage local solutions, and generate wealth at the lowest levels on the pyramid without extracting wealth from the rural sectors of the developing world?</p> <p>What benefit do the communities you operate in get apart from the products/services that are produced which may or may not be of use to the community?</p> <p>Can you create opportunities for massively more and different kinds of people to identify themselves as part of your organization's mission and network?</p> <p><u>Transparency:</u></p> <p>Can your value proposition lower the threshold to adopting behaviours that contribute to a positive change influencing people's behaviour for the better?</p>
What for (Purpose)	<p><u>Values Shift:</u></p> <ul style="list-style-type: none"> • To empower people to be a solution for their own challenges as it leads to improved quality of life, greater development, self-sustenance, economic stability etc. Business can address social/environmental challenges directly and by enabling their customers. • To give people opportunities to build their own businesses and livelihoods in order to build strong relationships, to secure long term licence to operate

	<p>and to equip broader groups with the tools/benefits of your business to become a force for good.</p> <p><u>Balance Shift: Developing and Underserved Markets</u></p> <ul style="list-style-type: none"> • To secure long term market stability by taking a leap to the base of the pyramid which not only provides a change for sustained corporate growth but also helps to lift the poor out of poverty and opens the way to sustainable growth for the global economy. • To extend the marketplace by building economic capacity of new markets. • To use social challenges as a platform for business innovation. This helps in addressing those social challenges through business activity leading to healthy business ecology. • To embedded process of co-invention and business co-creation that brings businesses into close, personal business partnership with the bottom of the pyramid communities. <p><u>Transparency:</u></p> <ul style="list-style-type: none"> • To create shared value and economic potential in order to bring business more closer to society and to make optimal use of resources to (re)create healthier society to operate.
Examples	<ul style="list-style-type: none"> • Monterrey Aquarium Seafood Watch iPhone app provides consumers with information that can help them take ethical decision on their food choices. Since 1999, Seafood Watch Program has been the most influential consumer seafood selection tool in the U.S. More than 36 million Seafood Watch pocket guides have been distributed to help individuals make better seafood choices. But, the update iPhone app takes the seafood selection to the next level, which allows user to search restaurants and markets across the country that provides ocean-friendly seafood. Under <i>Project FishMap</i>, users can upload new locations for sustainable fish and share with them with the network of 325,000+ subscribers, as and when they discover them.

	<ul style="list-style-type: none"> • M-Pesa is a mobile money transfer service, which allows people to complete basic banking transactions (deposit, withdraw, transfer, pay bills) without needing to access a bank, or qualify for traditional banking. This was first launched in Kenya, where approx. 65% of the households use M-Pesa and this service accounts for almost 20% of the Kenyan GDP. • TecnoSol provides clean energy alternatives for the lighting and refrigeration needs of rural Nicaraguan households, schools and hospitals that have no access to the main electricity grid. Tecnosol has installed over 47,000 systems and currently offsets 35,000 tons of carbon dioxide emissions in a country where 74% of people are off the grid. Their technologies help displace kerosene lamps and wood fires which pollute the air and increase carbon emissions. • Toms, works on a simple principle, that with every pair of shoes purchased from them, Toms will give a pair of new shoes to a child in need. This mission transforms their customer onto benefactors for growing a sustainable business instead of raising funds to the support the same cause. This program is presented explicitly to the buyers and it contributes to the brand image and its success. • Shakti, is channel developed to distribute Unilever's products to the rural areas where it not economically possible to reach through the traditional channels. This was developed in collaboration with NGOs and Govt. to empower the underprivileged rural women by providing opportunities to generate income. Women are trained on Unilever's product and skills to communicate and sell their products in the local communities. 45,000 Shakti entrepreneurs cover around 3m customer of rural India, and make a net monthly profit of INR 700-100 (US\$15-22). These women recognize this program as the pathway that renewed their influence and pride in their community. • Unilever's HLL subsidiary has tackled the lack of practical, inexpensive, low-energy-consuming refrigeration in India. HLL has developed a totally different approach to transport ice cream across the country in standard non-refrigerated trucks, as the regular refrigerated trucks generate dangerous and polluting refrigerants. The new system allows considerable reduction in the usage of electricity.
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	<ul style="list-style-type: none"> • Anglo American's eMalahleni plant built in Mpumalanga province of South Africa, purifies waste water from five mines and turns it into drinking water for the local community. In addition, around 200 tonnes of gypsum per day, which is generated during the process, is being used to make bricks to build homes. This enables the local people to move to affordable homes away from the mine village. It currently caters to 80,000 people with drinking water i.e 20% of their daily needs, recovering 99.5% of the water from the wastes. The water and gypsum for this plant could cater up to 7,000 homes a year. • GlaxoSmithKline (GSK) has established Developing Countries and Market Access (DCMA) operating unit in July 2010 which aims to increase patient access to GSK medicines and vaccines while expanding their presence and helping them to build a sustainable business in developing countries. The unit is also working with GSK country managers in other developing countries to increase access through flexible pricing and other approaches. The DCMA unit aims to increase the availability of GSK medicines by broadening their portfolio to make it more relevant to people in these countries, pricing it to increase access and unlock demand, contributing to education and awareness, and expanding their distribution and supply chain capability.
Key Words	Consumer as producer, bottom of the pyramid strategies, business with purpose, ethical practises, creating new markets, leverage, citizenship, shared value, empowerment

Dematerialised (resource-light):

What	Creating value and operating independently of material needs
Why	<p><u>Scarcity:</u></p> <ul style="list-style-type: none"> • Natural resources are becoming scarcer whilst humanity's ecological-footprint is increasing. Scarcity of resources will affect the businesses in many ways. The most immediate and obvious is that the price of

	<p>natural resources will continue to rise.</p> <ul style="list-style-type: none"> • By the year 2050 over 9 billion people will be living on earth. According to the United Nations we will need 70% more food than we do today. The UN report goes on to state that destroying nature will cost the world \$28 trillion dollars by 2050. Businesses that understand the problems associated with natural destruction are likely to gain a competitive advantage. • Investments in renewable energy technologies are growingly tremendously in today's market as they are becoming increasingly competitive. From 2002 until mid 2009, total investments into renewable energies showed a compounded annual growth rate of 33%. • By focusing on the consumer experience rather than the product, the business can add value to people's lives without the associated environmental impact. This may also increase the company's operating efficiency. • There will also be a growing market for products and technologies that enable consumers to reduce their ecological footprints. • This undervaluation of the returns from energy efficiency is likely to be one reason why big businesses in the UK are still wasting an astonishing £1.6bn ²⁰or more every year on energy bills that could be avoided <p><u>Protection:</u></p> <ul style="list-style-type: none"> • Rare earths²¹, a group of 17 elements, have become the natural resource of choice in modern-day manufacturing. The demand for these materials has increased tremendously in the past few years and is expected to surge even further in the years ahead. China is currently the biggest producer of these elements, with more than 95% share of the global market. However, it has been playing hardball by tightening its policies in the sector and implementing strict export quotas.
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²⁰ <http://www.guardian.co.uk/sustainable-business/energy-efficiency-financial-benefits>

²¹ <http://www.bbc.co.uk/news/business-14455224>

	<ul style="list-style-type: none"> - Over the past decade the demand for rare earth metals has seen a three-fold increase to 125,000 metric tons a year. - According to analysts, the figure could cross 200,000 tons by 2014. • WWF warns that on our current trajectory the global ecosystem will collapse by 2050. This means an end to fish, fresh water and everything that human life depends on. • Over the past four decades, the global land area that is cropped has been contracting in temperate regions but increasing in tropical parts of the world. This concentration of production in particular regions or countries and the changing focus of agricultural production systems in individual countries has important implications for the future resilience of supply and the functioning of global markets. • As civil society, government and business leaders wake up to the immediacy of the threat posed by a collapsing biosphere, a widespread and profound reassessment of the values underpinning society, the purpose of the corporation, and the current predominant economy is inevitable. <p><u>Values Shift:</u></p> <ul style="list-style-type: none"> • The scale of the challenge with respect to scarcity and protection is so great and the costs of failure so big that customers want companies to do more than simply reduce their impact. • There will also be a growing market for products and technologies that enable consumers to reduce their ecological footprints. <p><u>Balance Shift:</u></p>
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	<ul style="list-style-type: none"> • Demand from emerging economies such as China, India and Brazil will drive up the cost of raw materials.
Questions	<p><u>Scarcity:</u></p> <p>Can your business produce more from less or from waste to address the issue related to growing demands and resource scarcity?</p> <p>Can you operate using solely renewable energy to improve your environmental credentials and to secure your long-term energy supply (for example by not using carbon intensive resources such as fossil fuels)?</p> <p>Can you deliver your value proposition using radically less energy which will slash both costs and carbon emissions?</p> <p><u>Values Shift:</u></p> <p>Can your business add value or lower costs without any associated environmental or social impact?</p> <p>Can you replace any material offering with a service that delivers equal value which will leverage the knowledge and resources accumulated from products to result in increased cost savings, resource effectiveness, competitive differentiation, customer loyalty etc?</p> <p><u>Balance Shift:</u></p> <p>Materials, energy, services and resources we receive from natural systems will be more costly and less reliably available. Can your business in future survive with very minimal or no raw materials?</p> <p>How would rising energy and commodity prices impact your business? For example, what would your supply</p>

	chain look like if oil cost \$200 ²² per barrel?
What for (Purpose)	<p><u>Scarcity:</u></p> <ul style="list-style-type: none"> • To uncouple the meeting of needs and delivering value from material extraction and use to cope with the problem of expanding needs while having limited resources. • To radically reduce energy use in order to reduce costs, negate environmental issues, increase business reputation and to proactively manage regulatory compliance. • To make effective/minimal use of natural resources that can reduce the cost of making products and can reduce the costs of waste treatment and disposal. • To do more with less and also enable their customers to do more with less too. This not only adds a real and immediate commercial advantage but also positions the business as a leader which helps to builds its brand among environmentally and socially-conscious consumers. • Global reserves of fossil fuels²³ are declining at a time of increasing energy demand. The UK Government is a signatory to the EU RED and has therefore committed itself to contributing its share of sourcing 15% of total energy from renewable sources by 2020 (House of Lords, 2008). <p><u>Values Shift:</u></p> <ul style="list-style-type: none"> • To replace material goods and material intensity of industrial processes with services. This can lead to - improved resource management, design/process improvements, substantial untapped opportunities/markets, technological innovations, behaviour and consumption patterns, aligned incentives between waste generators and service providers, long-term relationship/partnership with various stakeholders. • By focusing on the consumer experience rather than

²² http://www.rethinking2050.eu/fileadmin/documents/Rethinking2050ExecutiveSummary_final.pdf

²³ <http://www.geotech.co.uk/Downloads/Geotech%20sponsored%20paper.pdf>

	<p>the product, the business can add value to people's lives without the associated environmental impact.</p> <p><u>Balance Shift:</u></p> <ul style="list-style-type: none"> • To reduce embodied energy²⁴ of goods and services by choosing the right mix of materials and energy, this in turn will provide potential cost savings. • To improve eco-design of products/services that uses minimum level of resources and provides environmental benefits which meets the customer's needs and requirements. This may lower the production cost, lower the material and resource cost, lower waste disposal costs, improve functionality and quality of the products, improve customer and supplier relationships etc.
Examples	<ul style="list-style-type: none"> • An increasing number of innovative business models and websites are encouraging the shift from owning to hiring and sharing, facilitating schemes as diverse as car-sharing and clothes hire (i.e. Zilok). There are also platforms to lend, borrow and trade goods from TVs, power drills, skills to spaces for free (i.e. Netcyler and Ecomodo). • Apple eliminated the need for polymer-based CDs through its disruptive innovation by selling online music. It totally changed the music industry and created an entirely new business model. • Dupont's industrial paint business has moved the business from selling paint by volume to selling the service of painting cars. Dupont doesn't get paid for the quantity of paint used but for the number of cars being painted. This by improving the painting methods and quality of paints, Dupont has reduced quantity of paint used per car lowering the overall cost of the car and improving the environmental footprint. • A multinational brewing company has invested money in Columbia and South Africa on reforestation

²⁴ Embodied energy includes not only the energy used directly in making the material but also the indirect energy used in such functions as obtaining raw substances from which material is made, transportation, running the offices of the businesses involved etc.

projects. It has committed that it would the total water consumption in its production. This has provided the company opportunity to brew in Australia as the government has gained confidence that the company will not harm the natural resources of the country.

- **Zipcar** is a large network of cars parked in urban locations that can be used by people where and when they need them. Users can book the cars online or by phone and would be charged based on the time of usage. Zipcar removes the actual cost of ownership for the users and ensures that these vehicles are well maintained. The best part is Zipcar replaces 26 private cars on the road, means less traffic congestion, less pollution and less dependence of oil. For example, after joining Zipcar, 90% of thier members(known as Zipster) drove 5,500 miles or less per year. That adds up to more than 121 million litres of crude oil left in the ground—or 829 litres saved per Zipster.
- **Ponoko** is a Personal Factory for making electronics, homeware, fashion and furniture. The consumer can customize/create a design, add their design to retain copyright control, choose materials and hardwares, get instant price and can get their product delivered at their door steps.

Other Examples:

- A German fashion designer, Anke Domaske, has invented a special fabric made from low grade cow's milk (which otherwise would have been thrown away). She uses this to make fashionable eco-friendly clothes.
- Campaign – Plan Bee was created to find solution for the decline of bees by controlling the pesticides in its supply chain and creating research fund and inspiring people to help bees in their gardens.
- Tesco has created a new way of shopping by enabling the consumers to snap the QR code of the desired

	product found on the cyber aisles on the walls and windows of sub way stations. The products of your choice get delivered at home at the same time your reach home. Tesco has changed the world of supermarket shopping by its quick, simple and environmentally friendly and most importantly cost efficient.
Key Words	Resource management, product-to-service transition, cradle to cradle thinking, energy efficient, peak oil

Restorative (waste-light):

What	Creating more environmental capacity and value by design
Why	<ul style="list-style-type: none"> • The study done by the Manufacturers Association for Information Technology (MAIT) shows the India generated 330,000 mega tonnes of electronic waste in 2007 and will reach 470,000 mega tonnes by the end of 2011 (http://ecoreco.com/pdf/about-e-waste.pdf). • India has historically disposed of most of its wastes in landfills²⁵. Although a comparatively inexpensive option, landfilling is unsustainable due to its harmful impacts on the environment. For example, landfill gas (LFG) emissions contribute about 40% methane (CH₄) emissions and 3% of all greenhouse gas (GHG) emissions. GHGs cause global warming, with CH₄ about 23 times more potent than carbon dioxide (CO₂) (IPCC, 2001) • Waste production blew out of proportion along with global industrialization and population explosion, endangering the environment and threatening humans and other living beings. • As waste piles up the demand for more products raises leading to resource scarcity. • Waste is being turned into marketable products. This process is called upcycling which helps to reduce thousands of tonnes of waste going to landfill. • Agricultural residue especially in rural areas amount to 140

²⁵ <http://www.geotech.co.uk/Downloads/Geotech%20sponsored%20paper.pdf>

	<p>billion metric tonnes globally and has an energy potential equivalent to 50 billion metric tonnes of oil²⁶.</p> <ul style="list-style-type: none"> Waste if not managed properly can become a drag on the economy and business productivity²⁷ by contributing to environmental and social issues. For example, 1 gal (3.75 l) of used motor oil can potentially contaminate one million gal (3,790,000 l)²⁸ of drinking water. Businesses now face rising energy and waste disposal costs, increased legal obligations and higher stakeholder expectations²⁹.
Questions	<p>Can you eliminate the costs of waste materials from your business processes?</p> <p>Can you source your core materials from waste to improve cost benefits and resource effectiveness?</p> <p>Can you fully recover any products you sell from 'end' users and integrate them back into your production stream for improved waste management (indirect), resource effectiveness and cost benefits?</p> <p>One business's waste can be another's food. Is your business using other business's waste or is your business waste creating new markets to other businesses?</p> <p>Can your business lower costs and risks by eliminating waste at the source or by using it as a useful input?</p> <p>Can you move from resource efficiency to resource effectiveness?</p> <p>Can you find useful applications for any waste materials created at any stage of your product life cycle, including customer disposal?</p> <p>Can you remove the waste of making excessive products?</p>
What for (Purpose)	<ul style="list-style-type: none"> To embrace natural cycles where the 'waste' from one process becomes 'food' for another process, or for the next loop of the same process. To eliminate the notion of waste, and embracing loops where

²⁶ http://www.unep.org/greeneconomy/Portals/88/documents/ger/GER_synthesis_en.pdf

²⁷ <http://www.defra.gov.uk/statistics/environment/waste/wrfg03-indcom/>

²⁸ <http://www.enotes.com/earth-science/waste-disposal>

²⁹ <http://www.businesslink.gov.uk/bdotg/action/detail?itemId=1079438276&type=RESOURCES>

	<p>everything returns to the ground as biological nutrients, or is reclaimed as a functional product at the end of its service life.</p> <ul style="list-style-type: none"> • To reduce the hazards on human health of extensive, widespread use of toxic products which will help buying in consumer trust and loyalty. • To develop new markets³⁰ for the recovered products so that materials currently seen as waste come to be seen as a valuable resource for another process or sector of industry. • To move towards the cradle-to-cradle approach³¹ which will encourage the business to think about what can actually be good for the environment/society rather than simply being less bad – move from efficiency to effectiveness. <ul style="list-style-type: none"> - The holistic approach of eco-effectiveness provides a wide innovative framework for solving social and especially environmental issues including the depletion of raw materials, production of harmful substances and emissions etc. It promotes lower consumption, reduction in emissions and waste, extension of product lifespan etc. - This approach has the potential to radically change the way products/services are designed and consumed along with the benefits of lower costs, a wide choice of materials, integration of design approach with system thinking etc.
Examples	<ul style="list-style-type: none"> • TerraCycle has developed products based on waste, unique eco-based initiatives, educating communities on the environmental impact of our consumption and encourages conscious buying, thus redefining the meaning of being a “green” company. For example, it is involved with collecting and turning used drink pouches into purses and, in a new agreement with Stonyfield Farm, converting discarded yogurt containers into artful flower pots. • INDUSTRIAL SYMBIOSIS³² – MUTUALLY PROFITABLE RESOURCE SHARING: One company’s waste can be another’s raw material. Instead of paying to send 500

³⁰ <http://archive.defra.gov.uk/environment/waste/topics/documents/opportunities-waste-manage.pdf>

³¹ http://www.c2cn.eu/sites/default/files/C2C_PS_buildC2C_.pdf

³² <http://www.mjallen.co.uk/library/documents/Sand%20reuse%20yields%20significant%20savings%20for%20foundry.pdf>

	<p>tonnes of sand from its foundry to landfill, MJ Allen sent the sand to Hanson, which used it in asphalt manufacturing. This arrangement saves MJ Allen over £30,000 a year and help them improve their environmental performance</p> <ul style="list-style-type: none"> • Terra Nitrogen³³ is part of Terra Industries Inc, a leading international producer of nitrogen products and methanol. Looking for alternative ways to use its by-products, the company teamed up with Humberside fruit and vegetable grower John Baarda Ltd to provide the infrastructure to supply and deliver utilities to the 38 acre site. The site uses more than 12,500 tonnes of CO₂, a by-product of Terra's nearby manufacturing site, significantly reducing the company's emissions. Steam from the plant is also used to heat the greenhouses. In addition, Terra Nitrogen supplies electricity to the greenhouses, ensuring Baarda benefits from specially agreed low rates, enabling them to produce tomatoes throughout the winter, providing a real boost for British agriculture as tomatoes would normally be imported from Spain during the colder months. This arrangement created new job opportunities, reduction of 12,500 tonnes of CO₂ emissions, £15 million private investment in the region. • Above-ground mining – A Belgium-based materials technology groups Umicore SA was a traditional provider of metals to its customers by mining the earth in Africa and Latin America for a wide variety of materials is now recycling or recovering 17 metals, out of which 7 are precious metals. This innovation has prevented the increasing environmental destruction due to continued mining. It also rewards such heavy industries for recycling their materials and creating a market for them. • "In the early 2000's, the Japanese fabric company Teijin, a partner of Patagonia's, invented a process by which used polyester can be almost endlessly recycled. Patagonia, which makes a line of polyester base layers known as Capilene, encouraged customers to send back their worn-out underwear. (It now also accepts products made from fleece, nylon and organic cotton.) Patagonia uses 76 percent less energy than if they had made it out of virgin petroleum." (http://money.cnn.com/magazines/fortune/fortune_archive/
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³³ http://www.wrap.org.uk/downloads/Tomatoes_New.8a1c18da.8892.pdf

2007/04/02/8403423/)

- **"Ford** is recycling used tires into engine parts for some of its most popular vehicles. The automaker is working with supplier Recycled Polymeric Materials to combine material from recycled tires with bio-plastic material to make seals and gaskets for vehicles like the F-150 truck, Mustang muscle cars and the compact Fiesta. More than 2.2 million pounds of rubber from recycled tires has been made into RPM seals and gaskets and more than 210,000 used tires have been recycled."(<http://www.sustainablebusiness.com/index.cfm/go/news.display/id/22663>)

Other Examples:

- **MDM (Mechanically Deboned Meat)** from the slaughter of chicken is produced by scraping the meat remnants from the carcasses after the high-grade meat has been removed. Enzymatic hydrolysis converts Mechanically Deboned Meat (MDM) and/or carcasses that previously went to MDM destruction into high-grade proteins, high-grade fats and a small amount of solid residue. The protein product has applications in sports and diet nutrition (nutritional supplements, energy bars ...) as well as in the sauce and soup industry, and the medical sector. The fatty part, 99% pure and of a high quality is also sold as a high-grade product. The solid residue is processed into animal feed. The new process presents opportunities for integration of the slaughterhouse and processing plant into an industrial symbiosis and will result in a sharp decrease of waste production, an optimisation of water consumption and an increase in energy efficiency.
- Schools of fish have shown engineers how to squeeze much more power from wind farms. A new wind farm design mimics a school of fish to exploit wind turbulence, and could dramatically improve power output."(<http://www.bbc.co.uk/news/science-environment-14452133>)
- A group led by Danish architect Bjarke Ingels, 36, recently won a contract to build the city's new \$700 million "trash to energy plant," a 330-foot structure that will replace the 40-year-old Amagerforbraending plant and will rank among the tallest and largest buildings in Copenhagen, which has no

	<p>skyscrapers. Part of why Ingels' 100-person company won the contract is because instead of just making the incineration plant look nice, it proposed a radical way to add functionality: build a 7.7-acre ski slope on the roof, complete with beginner to expert slopes and a restaurant at the top of the elevator.</p> <ul style="list-style-type: none"> • Target Corporation, the Minneapolis-based retailer that operates 1,750 locations in the United States, takes a philanthropic approach to addressing food waste. The company partners with "Feeding America" to donate millions of pounds of food overstock that the company's stores otherwise would send to a landfill. Each of Target's stores collaborates with a local food bank partner to coordinate pick-up times for donated items. By granting local control to individual stores, that unwanted and unsold food remains within the community so little transport and energy is needed to redistribute it. Target's programme launched in 2001 and the amount of food diverted from landfills has increased annually to 25 million pounds (11.3 million kilos) in 2010."http://www.guardian.co.uk/sustainable-business/food-retailers-must-reduce-waste) • In the next four years the food industry and retail will invest heavily in scientific and applied research on food chain sustainability. With a new approach the food sector will take the lead in resolving sustainability issues in the food chain. By joining TI Food and Nutrition* the Dutch Food Industry Federation (FNLI) and Dutch Food Retail Association (CBL) combine their strengths to accomplish significant increase of the efficiency in valorisation of resources, reduction of food spoilage and development of closed loop systems.
Key Words	Recycling, closed-loop systems, waste-free, energy from waste, cleansing, upcycling ³⁴ , cradle-to-cradle

³⁴ **Upcycling** is the process of converting waste materials or useless products into new materials or products of better quality or a higher environmental value.

7. Conclusion

Businesses in future cannot afford having sustainability as a cosmetic feel good factor but will have to find new ways to make sustainability a strategic imperative. Accenture recently conducted an International Survey to reveal few interesting statistics about the sustainability initiatives carried out by IT companies. 93% of respondents said that sustainability initiatives are present in their organization. Most of the initiatives were not comprehensive though. The common initiatives were

1. Energy efficiency and green IT: 51%
2. Talent and skill initiatives: 47%
3. Development of sustainability based products: 44%

The CSR initiatives of the examined companies in this report also have similar initiatives which sure are commendable but definitely not transformative.

Indian IT companies have to build stronger business cases (even with respect to philanthropy). Doing business with the people in the bottom of the pyramid will require radical innovations (as well as disruptive innovation) in technology and transformative changes in business models (Prahalad and Hart, 2001). The recommended Regenerative Business Model which is still not fully complete can be a starting point for businesses to think and evaluate new ways of doing meaningful and sustainable business – a move from doing less bad to making positive impact in business, society and environment.

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9. Appendix A - Indian IT Industry - Porter's Five Forces Analysis

A. Barriers for Entry - Medium

The IT industry is in growth phase and the government offers tax reliefs, the bigger players enjoy supply-side economies of scale and incumbents have advantages over the newer players. Also, the capital requirements

to start an IT software and consulting, which includes land, labour and equipments are high.

B. Competitive Rivalry - High

The competition in the Indian IT industry is very high, with many players of large and unequal size. Surviving and sustaining depends a lot of quality service, billing rates, strategic alliances and client relationship.

C. Threat of Substitutes - Low

The threat of substitutes is very low. The industry foresees new trends emerging in the future with the technological changes but outsourcing and consulting would continue to grow for the next 10-15 years.

D. Power of Buyers - High

The consumers/customers always have a high power in the IT enabled service economy. The switching cost for the consumers is relatively low and the service providers are always demanded of low billing rates, discounts and value adds by the consumers.

E. Power of Suppliers - Low

As far as the suppliers of an IT industry is concerned, the rivalry amongst them is high and fierce. The suppliers include; computer manufacturers, service providers such as maintenance, catering, security to name a few. IT companies could demand high performance and maintenance from its suppliers.

The Indian IT industry is definitely an attractive industry.

10. Appendix B – Aspects of TCS' Corporate Governance

Aspect
How

Different aspects of TCS' Corporate Governance are addressed below:

Avoidance of Conflict of Interest

TCS has a Code of Conduct for Non-Executive Directors, requiring them to always act in the interest of the company and ensure that any other business or personal association, which they may have, does not involve any conflict of interest with the operations of the company and their role therein.

Similarly, all employees including the Managing Director and Executive Directors are prohibited from freelancing or accepting any position of responsibility with or without remuneration with any other company without TCS' written approval. For Executive Directors and the Managing Director, such approval must be obtained from the Board.

Conflict of interest between the Board's executive function and the supervisory function is minimized by making the Chairmanship of the Board a non-executive role, and keeping it separate from that of the Chief Executive Officer and Managing Director.

Intra-group Transactions

TCS does not derive any material revenues (~1% of revenues in FY2010) from the Tata group companies. There is no intermingling of employees and resources including cash amongst the Group companies.

Independent Directors make up half the Board. Any dealing with Tata Sons or with a group company is done on an arms-length basis and has to be approved by the Board. Such transactions are reviewed closely by the Board to ensure that all shareholders' interests are protected before they are approved. All transactions with Tata group companies are disclosed in our Annual Report (Page 122-123).

Board Oversight of the Sustainability Agenda

To ensure that Business Sustainability gets adequate governance focus, TCS' Board of Directors meets 7 to 8 times a year. While four of these meetings are for review and approval of quarterly and year-to-date financial results, the remaining three to four meetings are for a more detailed oversight of business, strategy and sustainability matters.

This ensures that the Board's focus goes beyond financial performance alone and covers various operational and strategic issues including sustainability aspects, budgets, industry performance, peer review and competition analysis, overall risk assessment, performance of subsidiaries, opportunities for organic and inorganic growth etc.

TCS has dedicated teams for Corporate Social Responsibility and Environment, each headed by highly-qualified specialists in their respective domains. Their goals are determined by Senior Management in line with the Company's overall sustainability objectives, and performance on these two aspects of our sustainability agenda are reviewed by the Board on an annual basis.

Fiscal Oversight

An Audit Committee, consisting of independent, non-executive Directors, provides oversight of TCS' disclosure process to ensure that sufficient and credible information is disclosed, and that the published financial statements reflect a true and fair position of the company's finances.

Four meetings are held during the year for approval of quarterly accounts while three to four meetings are held strictly for in-depth consideration of internal audit reports. The Audit Committee also actively ensures that the internal audit processes provide adequate support in improving the Company's business processes, i.e., making the Company more efficient and cost-effective.

TCS has adopted a Whistle Blower Policy and has established the necessary mechanism for employees to directly report concerns about unethical behavior to the Chairperson of the Audit Committee, without fear of reprisal or victimization for coming forward.

As an additional governance control on access to the Company's cash, TCS has a Bank Account Committee of Directors which approves the opening and closing of bank accounts of the Company and to authorize persons to operate the bank accounts of the Company.

Aspect	
How	<div data-bbox="523 271 890 309"> <p>Independent and Effective Validation</p> </div> <div data-bbox="488 315 1362 501"> <p>The Company has appointed E&Y to oversee and carry out internal audits of TCS activities. The audit is based on an Internal Audit Plan, which is reviewed each year in consultation with the Statutory Auditors and the Audit Committee. In line with international practice, the planning and conduct of internal audit is oriented towards the review of controls in the management of risks and opportunities in the Company's activities. Based on various internal audits conducted, there has been a substantial amount of improvement in areas of Accounts, HR and Project Management.</p> <p>The external auditors of the Company are Deloitte Haskins and Sells, who do not have any undue dependence on TCS.</p> </div> <div data-bbox="523 539 826 577"> <p>Disclosure and Transparency</p> </div> <div data-bbox="488 584 1362 846"> <p>Benchmarked against global peers, TCS discloses significantly more operational and financial metrics on a quarterly basis. The quarterly, half-yearly and annual results are published in leading Indian newspapers, emailed out to analysts and investors who subscribe to that service and posted on our website www.tcs.com. Half-yearly results are sent to shareholders along with a message from the Managing Director on the Company's performance.</p> <p>The Earnings Release every quarter is accompanied by a press-conference which is video webcast live through our website. The same evening, a conference call is organized for investors and analysts, details of which are published in advance on our website, in which the Management team discusses that quarter's performance and responds to questions posed by the dialled-in investors and analysts. Through the quarter, our Management meets with investors who come visiting or at investor conferences and roadshows and addresses their queries and concerns.</p> </div> <div data-bbox="523 891 762 929"> <p>Ethics and Compliance</p> </div> <div data-bbox="488 936 1362 1478"> <p>The Tata Code of Conduct, which every employee signs at the time of joining the company, contains 25 clauses that make up a governing framework for responsible corporate citizenship and ethical behaviour. TCS has established procedures to deploy the TCoC and to enable employees, customers, suppliers and partners to understand the code and follow it in letter and spirit.</p> <p>The leadership team personally conveys TCS' values and the importance of the TCoC at employee events. Customers and suppliers are made aware of the TCoC through specific clauses in proposals, contracts, contract discussions, and through the TCS website.</p> <p>The full text of the Tata Code of Conduct is available on our website. (URL: http://www.tcs.com/SiteCollectionDocuments/About%20TCS/TCS_CodeofConduct_Oct-2008.pdf)</p> <p>In addition, senior managers with access to privileged information, have to comply with an additional code for the Prevention of Insider Trading. These Codes of Conduct. TCS also has a global policy to address Sexual Harassment at the work place.</p> <p>A senior executive at the Vice President level is designated as Ethics Counselor to foster responsible business conduct. The Ethics Counselor is supported by two senior administrators to manage Business Ethics issues at the corporate level and by Local Ethics Counselors (LECs) at each company location. The LECs and the corporate ethics team take appropriate actions to address concerns raised and report on training and deployment of the TCoC across the organization. Policies related to the TCoC are reviewed from time to time and changes if any are communicated appropriately across the Company.</p> <p>At the Board level, the Ethics and Compliance Committee oversees TCS' compliance to the Codes of Conduct to be followed by the Directors, Officers and other employees. Monthly Reports are sent to the Committee on matters relating to the Insider Trading Code and the CoC. One meeting of the Ethics and Compliance Committee was held during the year on January 15, 2010.</p> </div>

Aspect

How

Board Composition and Selection of Board Members

The Nominations Committee makes recommendations regarding the composition of the Board, identifies suitable individuals who can be inducted as Independent Directors and takes steps to refresh the composition of the Board from time to time.

The supervisory capability of the current Board has been significantly boosted by the inclusion of highly capable individuals with global management perspectives, broad corporate experience and specific expertise in corporate governance and compliance as independent, non-executive directors.

Employee access to the Board

Employees at TCS are highly empowered, not only because of the culture specific to TCS but also because of the nature of the IT industry itself, being highly people-dependent and therefore affording a very high degree of leverage to the workforce and management sensitivity to its concerns.

The voice of the employee is heard through a variety of means, listed in the Section on Stakeholder Engagement, and represented to the Board by the Executive Directors. In addition, individual senior-level employees are also invited to present to the Board on specific topics under discussion, from time to time.

Sustainability and risk management

TCS has an Enterprise-wide Risk Management (ERM) process administered by a Risk Office that continually identifies and the various risks threatening the Company's continued sustainability, as grouped under:

(1) Strategic (2) Operational (3) Financial and (4) Compliance related risks

The Risk Office maintains a Risk Register and draws up suitable risk mitigation plans for each of the risks identified therein. In March 2010, TCS constituted a Risk Management Committee on the Board to oversee the ERM process, review the risk mitigation plans, provide guidance to the Company on related matters and make recommendations to the Board on related issues. Going forward, this Committee is expected to meet twice

Succession planning

Business sustainability also requires consistency in management vision and minimization of impact when there is a leadership change. That is why succession planning is key to sustainability.

The Executive Committee of the Board reviews the succession planning of Senior Management. Business/ Unit Heads are invited to Board Meetings from time to time to give presentations to the Board to update them. This provides an opportunity for the Board to interact with the Senior Executives periodically, and assess values, competencies and capabilities to help them identify suitable internal successors and provide feedback.

In October 2009, Mr S Ramadorai retired as Chief Executive Officer and Managing Director and was duly appointed Non-Executive Vice Chairman. In his place, Mr N Chandrasekaran, who was the Chief Operating Officer, took over as CEO and Managing Director. The seamless manner in which this transition was accomplished is evidence that the Company's Succession Planning is working well.

Aspect
How

Remuneration Policy

Compensation for Non-executive Directors on the Board consists of:

- Sitting Fees for attending Board meetings and meetings of Committees of the Board, to the tune of Rs 10,000 per meeting.
- Commission, as decided by the Board of Directors and approved by Members at the Annual General Meeting. The commission is distributed amongst the Non-Executive Directors based on their attendance and contribution at the Board and certain Committee meetings, as well as the time spent on operational matters other than at meetings.
- Reimbursement of any out-of-pocket expenses incurred by the Directors for attending meetings.

Remuneration of the Managing Director and Executive Directors consists of a fixed component (salary, benefits, perquisites and allowances) and a performance-linked variable component (commission). The Remuneration Committee decides the annual increments within the salary scale approved by the Members, and the commission payable to the Managing Director and the Executive Directors out of the profits for the financial year and within the ceilings prescribed under law. The commission amount is based on the company's performance as well as that of the Managing Director and each Executive Director, measured along several sustainability-linked criteria discussed in this report.

Details of the compensation paid out to Members of the Board in 2009-10 are disclosed on Page 79 of our Annual Report.

Protecting Minority shareholders' interests

The Management has an ongoing dialog with institutional investors through a year-round Investor Relations outreach program.

Minority shareholders can move their private resolutions for discussion by the Board of Directors, or even requisition a General Body Meeting, subject to meeting eligibility criteria specified in the Companies Act.

Small shareholders get to communicate with the Board of Directors at the Annual General Meeting and have their queries/grievances resolved.

Shareholders can communicate any grievance to the Company Secretary's office. These complaints are then tracked right up to closure. In FY2010, TCS received 311 complaints – mostly about matters regarding transfer or credit of shares, non-receipt of dividend, notices, annual reports, etc. – all of which were resolved. TCS also has an Investor Relations Department to meet the needs of institutional investors and analysts.

At the Board level, a Shareholders/Investors Grievance Committee of Directors oversees the redressal of these complaints. This Committee met once during the year, on January 15, 2010.

Source: TCS Sustainability Report FY2009-2010

11. Appendix C– CSR Areas and facts

CSR areas in Infosys includes (www.karmayog.org, 2010)

1. Children
2. Community Welfare
3. Disaster Relief
4. Education
5. Energy
6. Environment
7. Healthcare
8. Heritage Conservation
9. Physically Challenged
10. Poverty Eradication
11. Rural Development
12. Women

In FY 2009-2010 CSR activities covered drives like donating clothes, conducting inspirational programs to students, providing midday meals, donating money for cancer research, contributing to flood relief and working towards the promotion of art and culture.

12. Appendix D – Client Spread

Client Spread is listed below (Cognizant Corporate Fact Sheet, 2011)

712 active clients, 46 of Fortune 100

27 of the top 30 global pharmaceutical companies

9 of the top 10 U.S. healthcare plans

7 of the top 10 global telecom service providers & equipment vendors

7 of the top 30 global retailers

2 of the top 4 global distribution system companies

3 leading U.S. airlines

3 of the world's top restaurant chains

9 out of the top 15 North American financial institutions

4 out of the top 5 UK financial institutions

8 of the top life, property & casualty insurers

3 of the top 10 manufacturing & logistics companies

4 of the top 10 information services companies worldwide

4 of the top 10 global media companies

5 of the top 7 online companies

6 of the major U.S. movie studios

13. Appendix E – Cognizant's 10 steps: Building a culture nurturing innovation

1. There are no 'bad' ideas
2. But innovation must be managed to be effective
3. Make innovation processes transparent and focus on communication
4. Establish metrics and track progress
5. Make innovative thinking an everyday part of the job
6. Learn from others and use what works
7. Link information technology capabilities with business needs
8. Channel innovation to where it's needed most
9. Recognize and reward innovation
10. Create an ongoing culture of innovation